COUNTWAY LIBRARY
HC 3IAV 5

BOSTON
MEDICAL LIBRARY
8 THE FENWAY

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 1

JANUARY, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

The Surgical Care of the Operable Malignant Lesions of the Stomach

Chemotherapeutic and Surgical Treatment of Acute Osteomyelitis

Barnes Hospital Case Reports

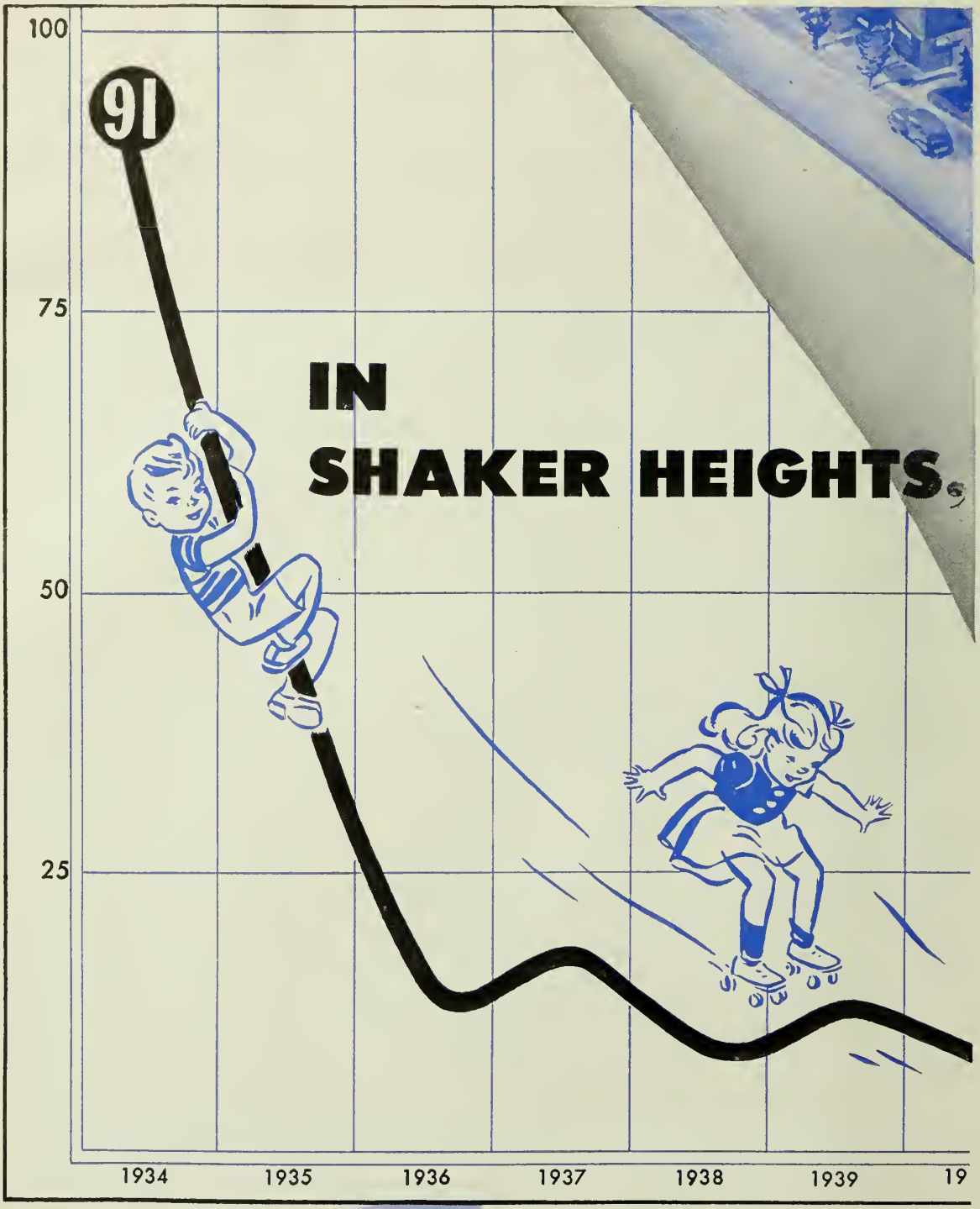
BOSTON
JAN 17 1946
MEDICAL LIBRARY

EDITORIALS

Reservations at Annual Session
American Medical Association

(Contents Index Page 5)

HOTEL RESERVATIONS FOR ANNUAL SESSION—PAGE 4



PARKE, DAVIS
& COMPANY
DETROIT 32, MICHIGAN

Sole producers of



Nine years' routine immunization of Shaker Heights children of pre-school age against whooping cough, using Sauer's vaccine, has cut the annual incidence of pertussis in this age group from 91 to a yearly average of 6 during a 4-year period . . . and the six who contracted the disease in 1943 were children *who had not been immunized.*[1]

[1] Garvin, J. A., Ohio State M. J. 41:229, 1945.

. . . PERTUSSIS VACCINE IMMUNIZING (SAUER)

Hotel Reservations for the Annual Session

Jefferson Hotel, St. Louis — March 24, 25, 26, 1946

Because of the limited hotel accommodations available for conventions it will be necessary to clear all reservations through the housing bureau and reservations should be made early. Reservations for rooms to be occupied by two or more persons will assist in the housing of all attending the session. Hotel rates follow:

Hotel	For One Person	For two Persons		
		Double Bed	Twin Beds	Two Room Suites
Claridge	$3.00-$4.00	$4.-$6.50	$5.00-$6.50	$10.00 & up
Coronado	3.00 & up	5.00 & up	6.00 & up	8.00-13.00
DeSoto	2.65- 7.00	4.00- 7.00	5.30-10.00	10.00
Jefferson	3.50- 5.00	4.50- 6.00	6.00- 8.00	12.00-20.00
Majestic	2.00- 2.25	2.75- 3.25	4.00	
Melbourne	3.20- 4.20	5.30- 6.80	5.30- 7.30	

All Reservations Must Be Received Not Later Than March 14, 1946

Housing Bureau, Missouri State Medical Ass'n.
910 Syndicate Trust Building
St. Louis 1, Mo.

Please reserve the following accommodations for the Missouri State Medical Ass'n., March 24-26.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED.

Single Room.....Double Bedded Room.....Twin Bedded Room.....
2 Room Suite.....Other Type of Room.....
Rate: From $..... to $.....

First Choice Hotel.....
Second Choice Hotel.....
Third Choice Hotel.....

Arriving at Hotel (date) .....hour ..... A.M. ..... P.M. Leaving (date) ..... hour ..... A.M. .....P.M.

Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

.....

.....

.....

(Individual Requesting Reservations)

Name .....
Address .....
City and State .....

If the hotels of your choice are unable to accept your reservation the Housing Bureau will make as good a reservation as possible elsewhere providing that all hotel rooms available have not already been taken.

CONTENTS

The Surgical Care of the Operable Malignant Lesions of the Stomach. Claude J. Hunt, M.D., and Paul F. Hunt, M.D., Kansas City, Mo. 21

Chemotherapeutic and Surgical Treatment of Acute Osteomyelitis. J. Albert Key, M.D., St. Louis.... 23

Case Reports of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 26

Abstracts and Digests—

Tuberculosis Abstracts 41

Hayfever Plants 42

Book Reviews 42, 59

Editorials—

Reservations for Annual Session..... 45

American Medical Association..... 45

News Notes 46

Miscellany—

Physicians Returned from Military Service..... 49

Cancer Clinics at the Ellis Fischel State Cancer Hospital 50

EMIC 50

Deaths 52

Plans for Cooperation Between Teaching Institutions and Veterans' Hospitals 52

Index to Advertisers..... 59

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

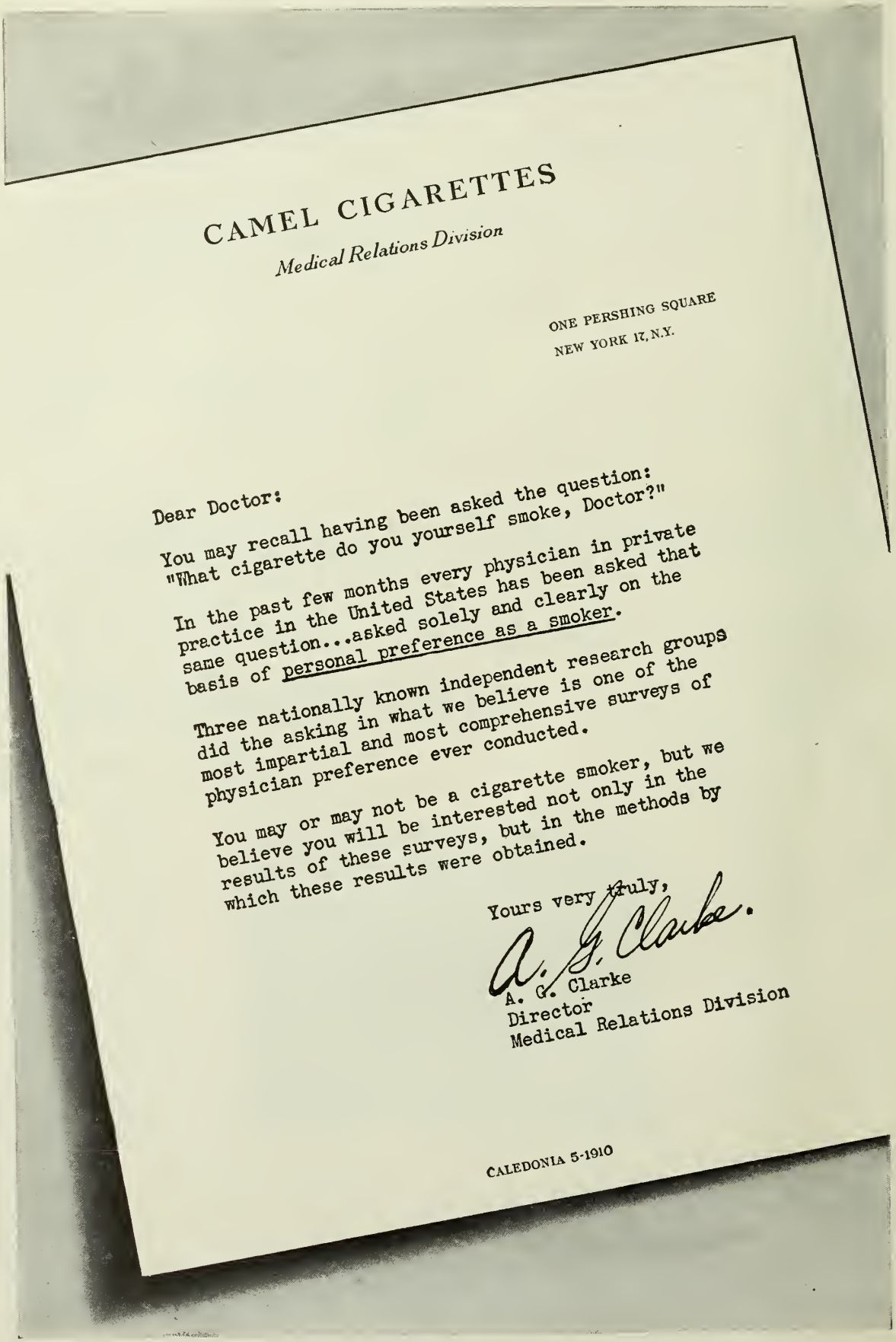
A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager



CAMEL CIGARETTES

Medical Relations Division

ONE PERSHING SQUARE
NEW YORK 17, N.Y.

Dear Doctor:

You may recall having been asked the question: "What cigarette do you yourself smoke, Doctor?"

In the past few months every physician in private practice in the United States has been asked that same question...asked solely and clearly on the basis of personal preference as a smoker.

Three nationally known independent research groups did the asking in what we believe is one of the most impartial and most comprehensive surveys of physician preference ever conducted.

You may or may not be a cigarette smoker, but we believe you will be interested not only in the results of these surveys, but in the methods by which these results were obtained.

Yours very truly,

A. G. Clarke.

A. G. Clarke
Director
Medical Relations Division

CALEDONIA 5-1910

A physician asked us the question first—

A smoker himself, he asked: "What cigarette do most doctors smoke?"

We know that many physicians smoke, that many of them prefer Camels; but we couldn't answer the doctor's query.

We turned the question over to three nationally known independent survey groups. For months these three groups worked . . . separately . . . each one employing the latest scientific fact-finding methods.

This was no mere "feeling the pulse" poll. No mere study of "trends." This was a nationwide survey to discover the actual fact . . . and from the statements of physicians themselves.

> *To the best of our knowledge and belief, every physician in private practice in the United States was asked: "What cigarette do you smoke?"*

The findings, based on the statements of thousands and thousands of physicians, were checked and re-checked.

ACCORDING TO THIS RECENT NATIONWIDE SURVEY:

More doctors smoke Camels than any other cigarette



And by a very convincing margin!

Naturally, as the makers of Camels, we are gratified to learn of this preference. We know that no one is more deserving of a few moments to himself than the busy physician . . . of a few moments of relaxation with a cigarette if he likes. And we are glad to know that so many more physicians find in Camels the same added smoking pleasure that has made Camels such an outstanding favorite among *all* smokers.

CAMELS *Costlier Tobaccos*

R. J. Reynolds Tob. Co.
Winston-Salem, N. C.

AMERICAN MEDICAL ASSOCIATION

President, Herman L. Kretschmer, Chicago.
President-Elect, Roger I. Lee, Boston.

MISSOURI STATE MEDICAL ASSOCIATION

88th Annual Session, St. Louis
March 24, 25, 26, 1946

President, A. S. Bristow, Princeton.

Vice Presidents, Robert Mueller, St. Louis; F. T. H'Doubler, Springfield; W. L. Brandon, Poplar Bluff.

Speaker, E. J. Schisler, St. Louis; Vice Speaker, Stanley P. Howard, Jefferson City.

Treasurer, C. E. Hyndman, St. Louis.

Secretary-Editor, R. L. Thompson, St. Louis.

Business Manager-Assistant Editor, Helen Penn, St. Louis.

Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1944-1946; alternate, M. Pinson Neal, Columbia. W. L. Allee, Eldon, 1944-1946; alternate, W. A. Bloom, Fayette. Robert E. Schlueter, St. Louis, 1943-1945; alternate, J. Frank Jolley, Mexico. James R. McVay, Kansas City, 1943-1945; alternate, H. L. Kerr, Crane.

Standing Committees

Scientific Work—Harry C. Lapp, Kansas City, Chairman (1946); Nathan A. Womack, St. Louis (1945); Ralph L. Thompson, St. Louis.

Postgraduate Course—Raymond Muether, St. Louis, Chairman (1945); David LeMone, Columbia (1946); G. T. Bloomer, St. Joseph (1946); Guy D. Calloway, Springfield (1947).

Publication—R. L. Thompson, St. Louis, Chairman; W. A. Bloom, Fayette; Robert Mueller, St. Louis; J. William Thompson, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis (1946); W. Merritt Ketcham, Kansas City (1947); Robert Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1945).

Defense—Charles E. Hyndman, St. Louis, Chairman (1945); O. B. Zeinert, St. Louis (1946); L. P. Forgrave, St. Joseph (1946); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1946); F. L. Kneibert, Poplar Bluff (1946); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947); James R. McVay, Kansas City (1945).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1946); Paul F. Cole, Springfield (1946); David S. Dann, Kansas City (1945).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1946); C. A. W. Zimmermann, Cape Girardeau (1946); W. F. Francka, Hannibal (1947); Ira H. Lockwood, Kansas City (1945).

Mental Health—B. Landis Elliott, Kansas City, Chairman (1946); Frank M. Grogan, St. Louis (1946); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947); Ralf Hanks, Nevada (1945).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1946); Buford G. Hamilton, Kansas City (1946); J. Milton Singleton, Kansas City (1947); H. B. Goodrich, Hannibal (1947); Joseph D. James, Springfield (1945).

Infant Care—U. J. Busiek, Springfield, Chairman (1945); Park J. White, St. Louis (1946); E. H. Schorer, Kansas City (1946); Damon O. Walthall, Kansas City (1945); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1946); Grayson Carroll, St. Louis (1946); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1945).

Constitution and By-Laws—O. S. Gilliland, Kansas City, Chairman (1947); B. Landis Elliott, Kansas City (1947); Joseph C. Peden, St. Louis (1946); G. T. Bloomer, St. Joseph (1946); H. L. Mantz, Kansas City (1945).

Fractures—Frank D. Dickson, Kansas City, Chairman (1946); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947); James D. Horton, Springfield (1945); J. R. Elliott, Kansas City (1945).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1946); Philip S. Luedde, St. Louis (1945); Robert S. Minton, St. Joseph (1946); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1946); Arthur W. Neilson, St. Louis (1946); W. S. Sewell, Springfield (1945); C. T. Ryland, Lexington (1947); Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1945); E. C. Funsch, St. Louis (1946); E. M. Fessenden, St. Louis (1947); R. R. Oglevie, Kansas City (1945); J. E. Castles, Kansas City (1946).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); C. A. W. Zimmermann, Cape Girardeau (1947); John L. Washburn, Versailles (1946); Frank L. Feierabend, Kansas City (1945); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; W. W. Buckingham, Kansas City; J. L. Mudd, St. Louis (1945).

Study of Cardiac Diseases—J. DeVoine Guyot, Jefferson City, Chairman (1945); A. Graham Asher, Kansas City (1946); Julius Jensen, St. Louis (1947); E. J. Schisler, St. Louis (1945); Horace W. Carle, St. Joseph (1946).

Postwar Planning—M. Pinson Neal, Columbia, Chairman; Robert Mueller, St. Louis; Ira H. Lockwood, Kansas City (1945).

Adviser to Woman's Auxiliary—H. L. Mantz, Kansas City.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

W. A. BLOOM, Fayette, Chairman

H. B. GOODRICH, Hannibal, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, H. B. Goodrich, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, R. B. Denny, Creve Coeur. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, Wm. A. Bloom, Fayette. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Herbert L. Mantz, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

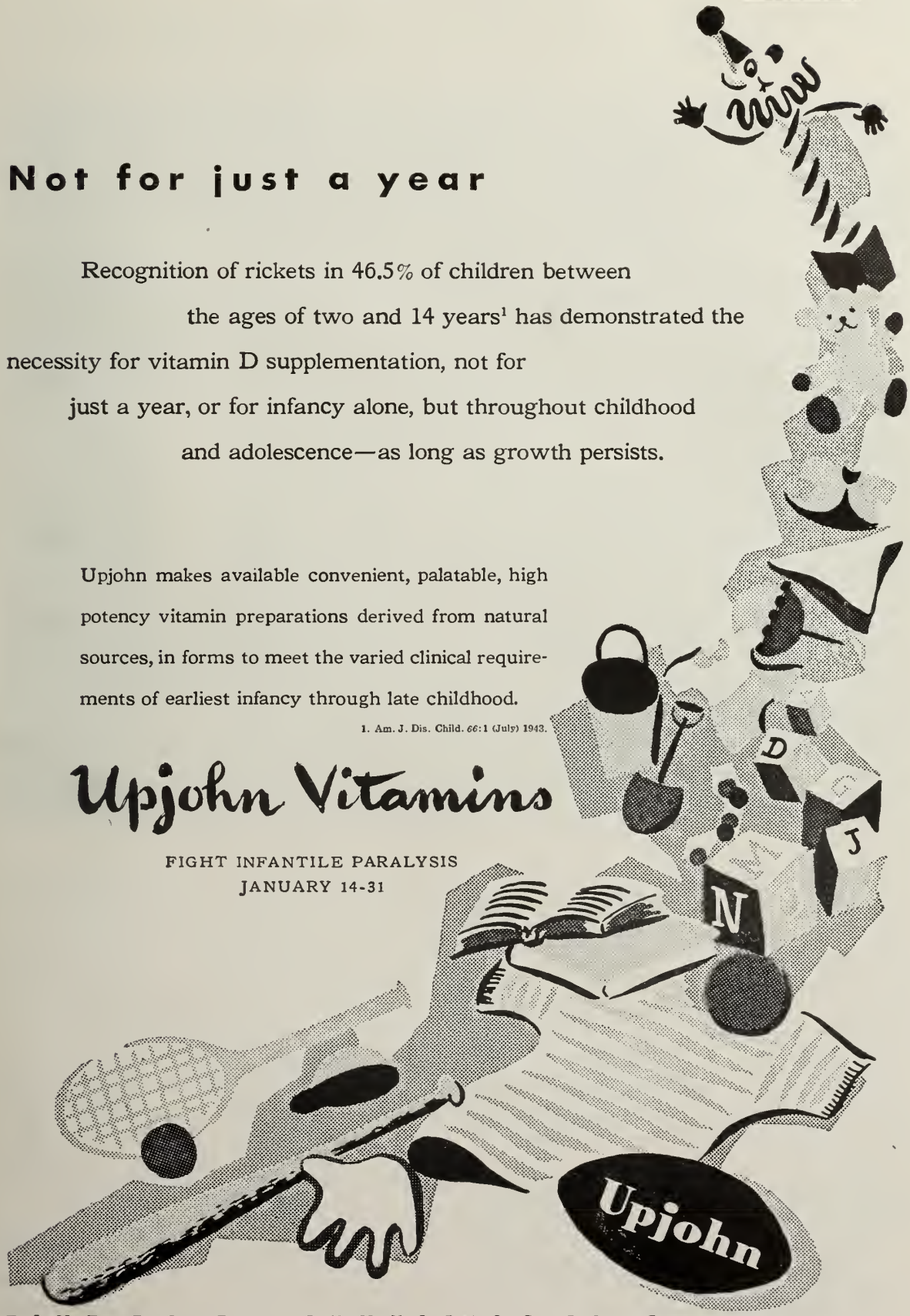
*Counties in italics are not organized.

Not for just a year

Recognition of rickets in 46.5% of children between the ages of two and 14 years[1] has demonstrated the necessity for vitamin D supplementation, not for just a year, or for infancy alone, but throughout childhood and adolescence—as long as growth persists.

Upjohn makes available convenient, palatable, high potency vitamin preparations derived from natural sources, in forms to meet the varied clinical requirements of earliest infancy through late childhood.

1. Am. J. Dis. Child. *66*:1 (July) 1943.



Upjohn Vitamins

FIGHT INFANTILE PARALYSIS
JANUARY 14-31

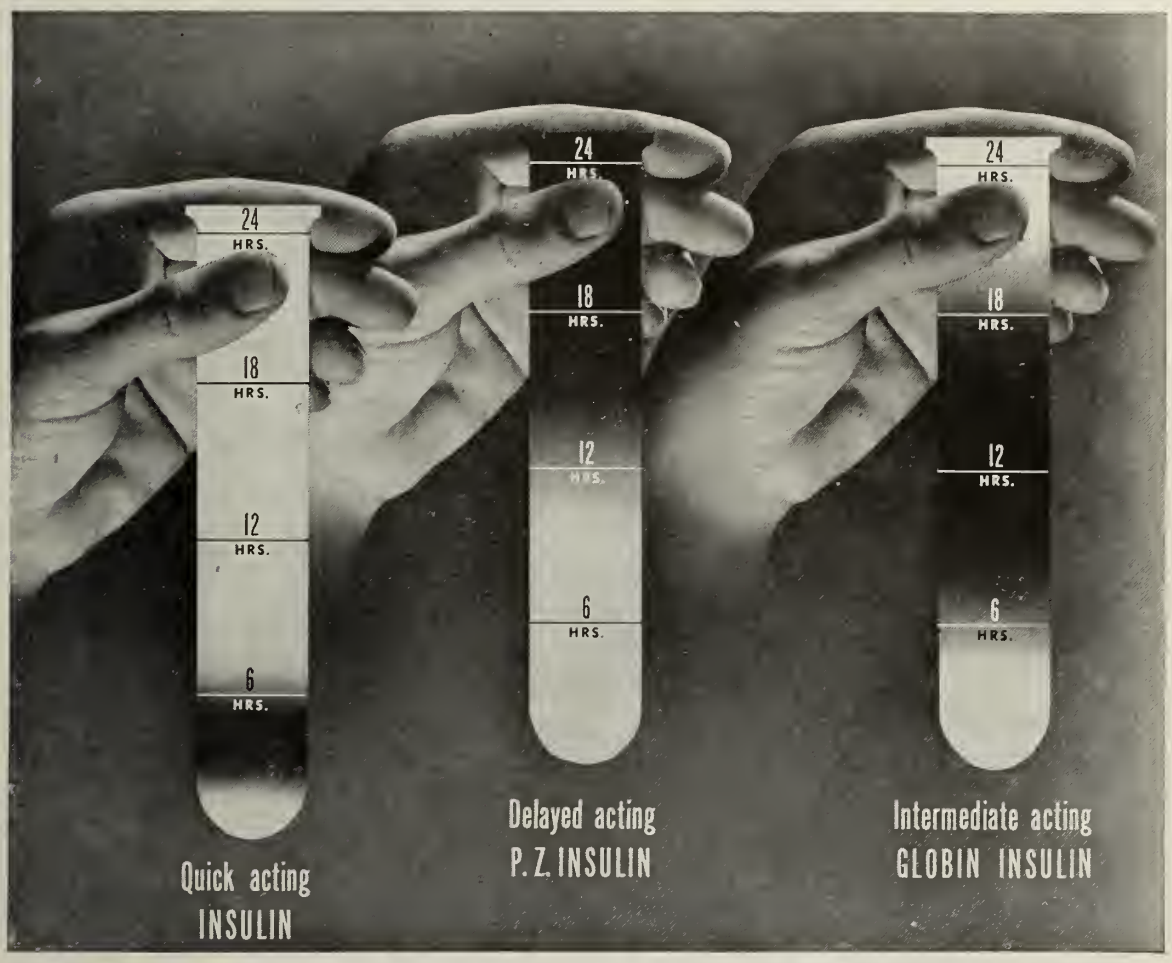
FINE PHARMACEUTICALS SINCE 1886

Kalamazoo 99, Michigan

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	W. K. McCall	Laddonia	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	L. H. Ferguson	Monett	Geo. W. Newman	Cassville
Barton	8				
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	W. Spaulding	Poplar Bluff	A. R. Rowe, Acting	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Alfred Collier	Chillicothe
Callaway	5	J. J. Blasko	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1			W. G. Atwood	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			W. B. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	W. G. Dillon	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	R. R. Cutler	Washington	F. G. Mays	Washington
Greene	8	George Hogeboom	Springfield	A. D. Vail	Springfield
Grundy-Daviess	1	Oliver F. Duffy	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	D. L. Coffman	Fayette	J. W. Gardner	Glasgow
Jackson	7	Fred B. Kyger	Kansas City	Frank B. Leitz	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Jesse F. Donnell	Crystal City	J. J. Commerford	Crystal City
Johnson	6	Charles S. Johnson	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	J. H. Summers	Lebanon	James L. Hope	Lebanon
Lafayette	6	W. A. Braecklein	Higginsville	W. E. Koppenbrink	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	H. S. Harris	Troy	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	J. J. Reichman	Hannibal	W. J. Smith	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	W. L. Allee, Acting	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	E. J. T. Anderson	Montgomery City	J. O. Helm	New Florence
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	R. C. Lamson	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	F. E. Luman	Edina	A. F. Miller	Kirksville
Pemiscot	10	J. R. Chapman	Steele	C. F. Cain	Caruthersville
Perry	10	O. A. Carron	Perryville	Theodore Fischer, Acting	Altenburg
Pettis	6			J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	J. B. Biggs	Bowling Green	E. A. Cunningham	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	E. A. Oliver	Richland
Randolph-Monroe	2	L. L. Nickell	Moberly	T. S. Fleming, Acting	Moberly
Ray	1	I. E. Goldberg	Polo	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon		
St. Francois-Iron-Madison-Washington-Reynolds	10	W. Harry Barron	Frederickstown	John W. Hunt, Jr.	Leadwood
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	C. A. McBurney	Slater	W. K. Nix	Marshall
Scott	10	G. W. H. Presnell	Sikeston	W. O. Finney	Chaffee
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	C. Braxton Davis	Nevada	Wm. H. Allen	Nevada
Webster	8	C. R. Macdonnell	Marshfield	E. G. Beers	Seymour

Evolution of the 3rd insulin . . .



A NEW type of insulin is available for the diabetic —Globin Insulin. First there was a quick-acting but short-lived form. Next came a slow-acting but prolonged type. Now there is the intermediate-acting 'Wellcome' Globin Insulin with Zinc. Activity begins with moderate promptness yet it continues for sixteen or more hours, sufficient to cover the periods of maximum carbohydrate intake. Activity diminishes by night so that nocturnal reactions are minimal.

A single injection daily of 'Wellcome' Globin Insulin with Zinc controls the hyperglycemia of many patients. Physicians are rapidly learning to take advantage of this new third form of insulin when prescribing for their patients.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its freedom from allergenic properties.

Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in the Wellcome Research Laboratories, Tuckahoe, New York. U.S. Patent No. 2,161,198. Available in vials of 10 cc., 80 units in 1 cc. and vials of 10 cc., 40 units in 1 cc. Literature on request. 'Wellcome' trademark registered.

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N. Y.

The Preference is Overwhelming

A comprehensive report published in *Human Fertility*[1] shows an overwhelming preference by experienced clinicians for the "Diaphragm and Jelly" method of conception control.

The report covering 36,955 new cases shows that the diaphragm and jelly method was prescribed for 34,314, or 93%.

On the evidence supplied by competent clinicians we continue to suggest that for the optimum in protection the physician should prescribe the combined use of a vaginal diaphragm and spermatocidal jelly.

When you specify "RAMSES"* a product of highest quality is assured.

Gynecological Division
JULIUS SCHMID, INC.
Established 1883
423 West 55th Street New York 19, N. Y.

1. Human Fertility, 10:25, March, 1945.



*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Dietary Protein after Surgery and Other Trauma

apparently must be maintained at a level above normal in order to assure proper wound healing* and at least average resistance against infection.** The feeding of meat, therefore, in adequate amounts, as soon as it can be instituted, appears doubly advantageous: the protein content of meat is high and of highest biologic value; the human digestive tract appears well adapted for handling meat protein.**

*" . . . in a variety of medical and surgical conditions there may occur a considerable depletion of body protein owing to a combination of factors, of which the two most important are a generally diminished protein intake and an enhanced protein catabolism. This situation inhibits wound healing, renders the liver more liable to toxic damage, impedes the regeneration of hemoglobin, prevents the resumption of normal gastrointestinal activity and delays the full return of muscular strength. It is obvious that to meet the situation an adequate supply of proteins and calories must be made available to the body. . . . This implies at least 150 Gm. of protein and 3500 calories, with as much as 500 Gm. of protein daily when trauma has been severe, as in serious burns." (HOFF, H. E.: Physiology, New England J. of Med. 231:492 [Oct. 5] 1944.)

**"Cannon . . . cites the evidence which indicates that diminished protein intake lowers resistance to infectious disease, and corroborates it by his own experiments . . . it seems probable that the small intestine is better adapted for handling protein (especially meat protein) than for other types of food. . . . it is especially well supplied with enzymes which attack protein, and the digestion of meat has been shown to be more complete than that of foods of vegetable origins." (CRANDALL, L. A., Jr.: The Clinical Significance of the Plasma Proteins, Memphis M.J. XIX:147 [Oct.] 1944.)

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES

Why do Tom, Dick and Harry need Vitamin D?



Growing children require vitamin D mainly to prevent rickets. They also need vitamin D, though to a lesser degree, to insure optimal development of muscles and other soft tissues containing considerable amounts of phosphorus . . . Milk is the logical menstruum for administering vitamin D to growing children, as well as to infants, pregnant women and lactating mothers. This suggests the use of Drisdol in Propylene Glycol, which diffuses uniformly in milk, fruit juices and other fluids.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

DRISDOL IN PROPYLENE GLYCOL

TRADEMARK REG U S. PAT. OFF & CANADA

Brand of Crystalline Vitamin D_2 (calciferol) from ergosterol

MILK DIFFUSIBLE VITAMIN D PREPARATION

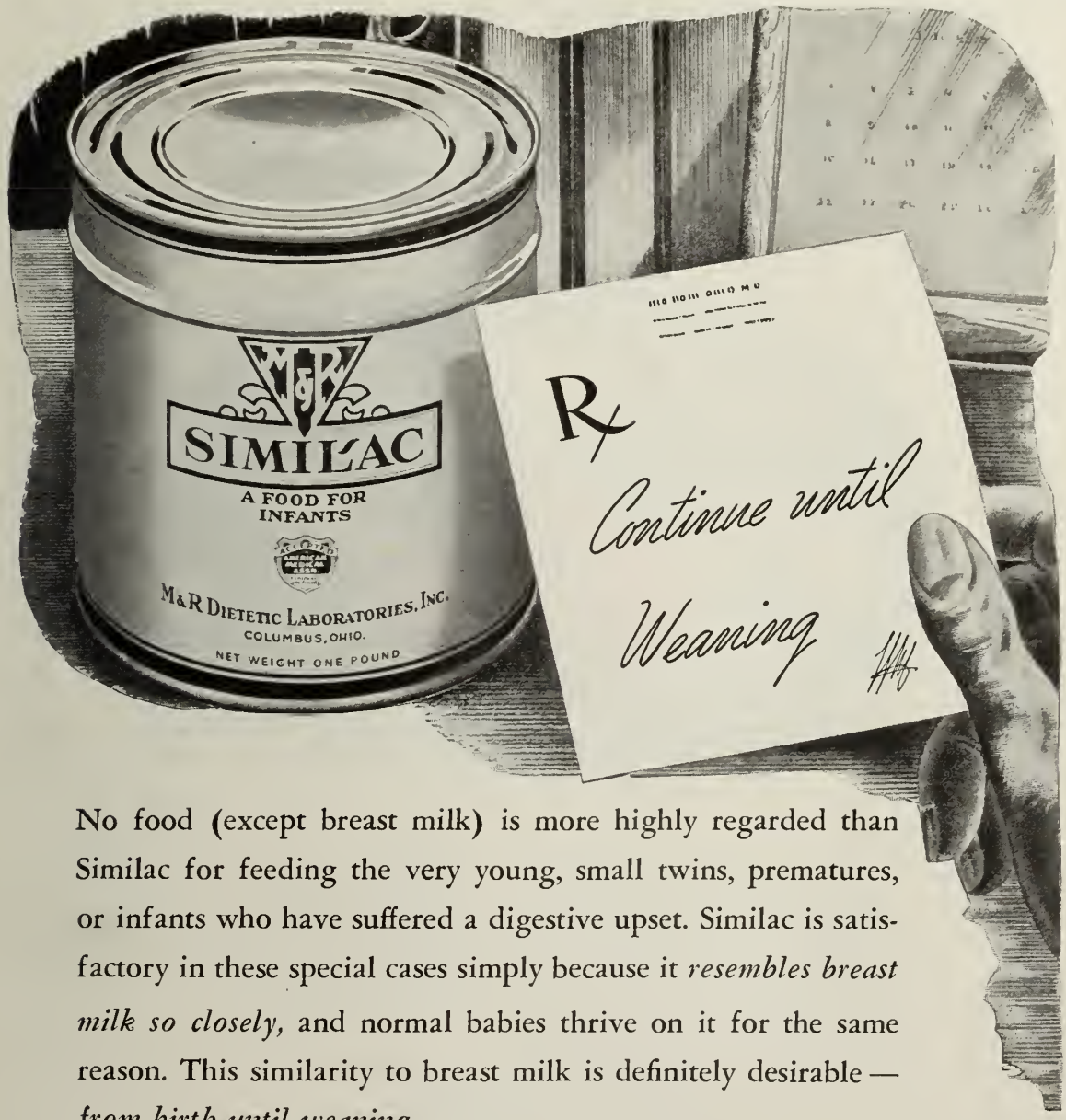
Odorless Tasteless Economical

Average daily dose for infants 2 drops, for children and adults 4 to 6 drops, in milk.

Available in bottles of 5, 10 and 50 cc. with special dropper delivering 250 U.S.P. units per drop.

WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician • New York 13, N.Y. • Windsor, Ont.



No food (except breast milk) is more highly regarded than Similac for feeding the very young, small twins, prematures, or infants who have suffered a digestive upset. Similac is satisfactory in these special cases simply because it *resembles breast milk so closely,* and normal babies thrive on it for the same reason. This similarity to breast milk is definitely desirable — *from birth until weaning.*

A powdered modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butterfat is removed and to which has been added lactose, olive oil, coconut oil, corn oil, and fish liver oil concentrate.

One level tablespoon of Similac powder added to *two* ounces of water makes *two* fluid ounces of Similac. This is the normal mixture and the caloric value is approximately 20 calories per fluid ounce.

SIMILAC } SIMILAR TO BREAST MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS, OHIO

...remove the mask of nasal congestion!

PRIVINE HYDROCHLORIDE



provides adequate symptomatic relief from the discomfort of congested nasal passages in conditions such as coryza and allergic rhinitis. Privine has notable advantages which you and your patients will appreciate:

- **Dramatic promptness of action.**
- **Prolonged vasoconstriction.**
- **Non-interference with ciliary activity.**
- **Absence of irritation.**

Privine, accepted by the A.M.A. Council on Pharmacy and Chemistry, is offered in two concentrations: 0.1 per cent, recommended for adults only; 0.05 per cent for children, also found effective in many adult cases. Your pharmacy can supply Privine in bottles of 1 oz. and 16 ozs.

PRIVINE *Trade Mark Reg. U. S. Pat. Off. and in Canada*



Steroid Hormones · Fine Pharmaceuticals

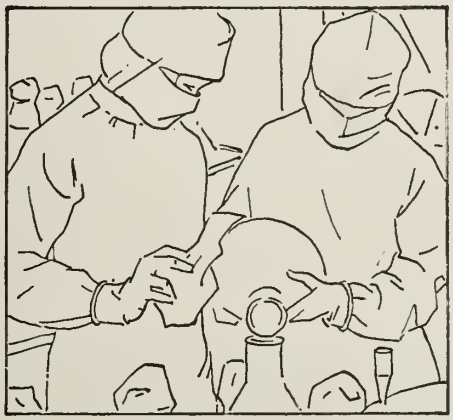
CIBA PHARMACEUTICAL PRODUCTS, INC.

Summit, New Jersey

In Canada: CIBA COMPANY LIMITED, MONTREAL

PENICILLIN SCHENLEY CONTROL

here . . .



. . . *insures your confidence here*



SCHENLEY LABORATORIES, INC.
Producers of Penicillin Schenley
Executive Offices:
350 Fifth Avenue, New York City

At the Schenley Laboratories, a system of control of vast proportions insures maximum purity, potency, and pyrogen-freedom for the end product which bears the label Penicillin Schenley.

Since its production is safeguarded with such skill and precision at every step, members of the medical profession can feel the greatest confidence when they specify Penicillin Schenley.

Your Local Distributor for **PENICILLIN** SCHENLEY *is:*

ST. LOUIS
Charles A. Schmidt Instrument Co.
Storz Instrument Co.

SPRINGFIELD
Burt Krone Company

Doctor—Judge

PHILIP MORRIS suggests *you* judge . . . from the evidence of your own *personal* observations . . . the value of PHILIP MORRIS Cigarettes to your patients with sensitive throats.

PUBLISHED STUDIES* SHOWED WHEN SMOKERS CHANGED TO PHILIP MORRIS SUBSTANTIALLY EVERY CASE OF THROAT IRRITATION DUE TO SMOKING CLEARED COMPLETELY, OR DEFINITELY IMPROVED.

But naturally, no published tests, no matter how authoritative, can be as completely convincing as results you will observe for yourself.



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, NEW YORK, N. Y.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154.*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60.

TO THE DOCTOR WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

INTRODUCING

Combisul - TD

(equal parts of sulfa*thiazole* and sulfa*diazine*) **in one tablet**



TO REDUCE RENAL TOXICITY INCIDENT TO SULFONAMIDE THERAPY

Recent experimental and clinical studies[1,2] prove that administration of sulfathiazole and sulfadiazine in combination in equal parts reduces renal complications such as crystalluria, hematuria and urinary tract blockage, and is much safer than either drug used alone in whole dosage. Simultaneously, antibacterial activity and therapeutic efficacy are maintained.

COMBISUL-TD presents 0.25 gram sulfathiazole and 0.25 gram sulfadiazine — a total of 0.5 gram per tablet. No signs of renal toxicity have been encountered by use of this mixture and even crystalluria is infrequent. The indications for, and dosage of, COMBISUL-TD are the same as for either drug administered alone. Meningitis is an exception, for which COMBISUL-DM, a combination of 0.25 gram sulfadiazine and 0.25 gram sulfamerazine is available.

COMBISUL-TD available in 0.5 gram tablets. Bottles of 100 and 1000.
COMBISUL-DM available in 0.5 gram tablets. Bottles of 100 and 1000.

1. Lehr, D.: Proc. Soc. Exper. Biol. & Med. 58:11, 1945.
2. Lehr, D.: In press.

Trade-Marks COMBISUL-TD and COMBISUL-DM — Reg. U. S. Pat. Off.

SCHERING

Schering CORPORATION • BLOOMFIELD, N. J.
IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

the healing power of sleep



Adequate rest is an important factor in the successful treatment of upper respiratory infections. Frequently, nasal congestion keeps the patient irritable and sleepless. Solution 'Tuamine Sulfate' (2-Amino-heptane Sulfate, Lilly), administered by spray or dropper, quickly shrinks the nasal mucosa, permitting easy, natural breathing. There is no secondary engorgement or central-nervous-system stimulation. Specify Solution 'Tuamine Sulfate,' 1 percent, for home use. The 2 percent solution is recommended for office procedures in which maximum shrinkage is required.

Lilly ELI LILLY AND COMPANY, *Indianapolis 6, Indiana, U.S.A.*

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 | JANUARY, 1946 | NUMBER 1

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

THE SURGICAL CARE OF THE OPERABLE MALIGNANT LESIONS OF THE STOMACH

CLAUDE J. HUNT, M.D.
AND
PAUL F. HUNT, M.D.
KANSAS CITY, MISSOURI

The present status of the surgical treatment of lesions of the stomach and duodenum is the result of a process of slow evolution in which there was much trial and error. During this period of development three essential factors to be carefully evaluated in the successful treatment of those lesions that lend themselves to surgical attack have come to be recognized. They are: an adequate preoperation preparation, a selection of an appropriate surgical procedure, and a careful and detailed postoperative management.

The restoration to as near normal as possible of the local anatomic structures, the proper preoperative evaluation of the patient's physical resources and the fortification of these natural powers of resistance is essential to the preparation of the patient for operation. The patient must be in an anatomic and physiologic state to withstand major surgery of this type and the surgeon must fully recognize his responsibility in this respect. It is foolhardy and hazardous to attempt gastric or duodenal surgery upon a patient whose local condition within the stomach has not been adequately prepared for manipulation and surgical attack, and correspondingly it is foolish and disastrous to expect physiologic response in a patient whose vital resources have not been reenforced and restored to a near normal balance.

Thus it is necessary to prepare properly the local field for operation. A distended putrid stomach with much accumulation of fluid, mucus and foul contents is a cess pool of infection. The stomach is thin walled and the contents are laden with infection. Adequate washing of the stomach by suction not only will cleanse the stomach and remove the foul contents but will restore the tone of the stomach wall, make it easier to handle, manipulate and to suture securely. The danger of breaking down of the suture line is reduced to a minimum and peritoneal contamination and possible peritonitis is lessened. My policy is to wash the stomach until the return of the fluid is clear and clean. I feel, as advocated by Horsley, that the washing with ½ of 1 per cent hydrochloric acid solution is helpful in reducing the bacterial flora of the stomach. This procedure therefore is employed in all gastric cases that have pyloric obstruction and gastric retention.

The history of vomiting is most important in determining the extent of retention. The character of the vomitus indicates the degree of putrefaction. A flat plate of the abdomen shows the size and degree of distention of the stomach. I feel that adequate cleansing of the stomach is necessary to restore muscle tone, reduce infection and facilitate gastric manipulation.

Coincidental with the local preparation of the stomach for surgical approach, it is mandatory that the physiology of the patient be restored as nearly to normal as is possible. Many of the patients have lost large quantities of fluid and electrolytes by vomiting, many are anemic and much nutritional deficiency is present. Therefore, fluids and saline are indicated and should be given intravenously, glucose for liver storage of glycogen should be adequate and transfusions are frequently essential as a preoperative measure. A transfusion usually should accompany the surgical procedure or follow immediately. In long difficult cases, blood should be given during and after operation.

The protein status of the patient is frequently deficient and can be improved by repeated transfusions. Adequate protein restoration in a short time is difficult to accomplish. The injections of amino acids are advisable when available, but blood is always accessible and is effective.

From the Surgical Service of Research Hospital.
Associate in Surgery, Kansas University Medical School.

Vitamin deficiencies of thiamin chloride and vitamin C are present and should be given by injection for several days prior to operation and in the immediate postoperative period.

With these measures of gastric lavage, restoration of water balance, glycogen storage, transfusions and vitamin administration, patients who appear at first observation to be poor operative risks can be converted often into a quite satisfactory surgical condition.

Advanced age is not a barrier to operation. Many old individuals stand operations of great magnitude quite satisfactorily. In the absence of complicating associated disease of a serious nature, patients of advanced age may be accepted for gastric resection with a reasonable assurance of success. My experience has been gratifying in the surgical management of these elderly individuals when properly selected.

The choice of anesthetic is dependent upon the experience of the surgeon with anesthetic agents and the satisfaction he has had with their use. I have used most of the anesthetic agents and have concluded that spinal anesthesia produces the best relaxation and the least postoperative reaction. I use pontocain-dextrose, often supplemented with penatal sodium, intravenously or with cyclopropane. Pontocain anesthesia is maintained for a sufficient period of time for the uncomplicated case. For those in which the surgical procedure is going to be prolonged, continuous spinal anesthesia is of the greatest assistance. At any time a little more of the anesthetic agent can be added and the procedure carried on for three or four hours without shock, pain or unfavorable reaction. Spinal anesthesia must be administered by one trained and experienced in its use. Under such circumstances I believe spinal anesthesia to be safe, effective and most satisfactory from the standpoint of relaxation.

SURGERY OF THE STOMACH FOR CANCER

Since 50 per cent of the patients that present themselves for operation are inoperable at that time and in only one half of the remainder does the lesion prove to be resectable, it indicates that the disease is advanced in most of the cases that come for treatment. Much information as to the operability can be determined by a competent radiologist. However, this means of study is not final. In about 10 per cent of the cases that appear to be inoperable by radiologic study, the lesions prove to be removable at operation and, conversely, apparently operable lesions prove to be inoperable at exploration.

Therefore, unless there are definite signs of metastasis or other contraindications, exploration should be done. Definite signs of inoperability are extensive involvement of the stomach near the cardia with fixation, large nodular liver, jaundice or ascites, infiltration of the umbilicus, induration of the rectal shelf, hard positive glands above the left clavicle and serious associated disease.

I believe the best approach to the stomach is through a left rectus incision. The pylorus is near the midline and most of the stomach is on the left side. Through this left approach the pylorus and duodenum are easily accessible and the entire stomach is in the exposed field. It is only through this approach that one obtains easy access to the fundus of the stomach, the left gastric artery and the glands high on the lesser curvature of the stomach. Certainly in high gastric resection and total gastrotectomy it is the exposure of choice.

Surgical resection for malignant lesions of the stomach has progressed from a reluctant timid approach to the radical phase or to even removing the entire stomach. The excision of the cardia of the stomach with the lower end of the esophagus is being done increasingly often.

The operation of gastro-enterostomy is performed rarely in malignant lesions of the stomach. The results are only temporary and the functional emptying of the stomach is often poor. The anastomosis is best by the anterior type at the greater curvature of the stomach, as the posterior wall is usually inaccessible, due to extension of the growth and fixation. Malignant extension is more extensive on the posterior wall than on the anterior; therefore, posterior anastomosis would be more quickly encroached upon by the invading malignant lesion.

When resection is possible it should be carried out even in the presence of glands that cannot be removed or moderate liver metastasis. It has been shown repeatedly that resection in the presence of unremovable metastasis results in slowing the metastatic growth and the prolongation of life. At least it eliminates the terminal phase of nausea, wretching, vomiting and starvation, characteristic of obstructive cancer of the stomach.

Since 70 per cent of the malignant lesions of the stomach are in the distal two thirds of the stomach, most cases are anatomically in a position for resection. Careful exploration must be made to determine the nature of any fixation which may be present. Often apparent malignant fixation proves on further examination to be inflammatory in nature and a line of cleavage may be found which easily separates the lesion from surrounding structures. Many cases which are operable are denied surgery because the fixation is assumed to be malignant. Inadequate relaxation prevents thorough exploration and a false impression may be obtained as to the true nature of fixation and degree of extension. Malignant fixation into the pancreas is a contraindication to resection.

My approach to the stomach is through the gastrohepatic omentum, freeing the stomach posteriorly and elevating it to approach the gastric colic omentum. The great omentum is removed in all malignant lesions. Starting with the midsection of the stomach, the dissection is carried below the pylorus and to the desired height above. Adequate closure of the duodenum is essential as the second cause of death in gastric resection is duodenal rup-

ture. The type and position of the anastomosis depends upon the height of the resection. Since all the glands of the lesser curvature should be removed, and the entire gastrocolic and the great omentum, the resection is necessarily high and, hence, a posterior anastomosis is difficult. Therefore, in malignant lesions, an antecolic Hoffmeister end to side anastomosis should be done. This reduces the size of the anastomotic opening to approach the normal. I buttress the closed portion of the stomach by approximating the jejunum, thus more securely supporting the anastomosis and reducing the possibility of leakage.

There are those who prefer the posterior colic anastomosis. This is more difficult in high resection, is inaccessible if secondary surgery is necessary and, with a short fat mesocolon, is difficult to accomplish.

My results with the antecolic method have been entirely satisfactory and I have not seen the necessity of entero-entero anastomosis. I have had no trouble with the long proximal loop employed.

I have employed the Billroth I type of operation but rarely in gastric resection and never for malignant lesions. I feel that the resection must be carried so high in order to remove all the gland bearing area that proper approximation without tension cannot easily be done. I have not had the success with this procedure as others report. The caliber of the two structures is so different that adequate closure is difficult to effect and suture tension is possible even with free mobilization of the duodenum.

The care after operation is of the greatest importance. Transfusions should be used after resection and body fluids maintained. I use routinely the nasal tube as gravity drainage for from two to four days after gastric resection. This permits the patient to drink small amounts of water, keeps the throat moist and furnishes an avenue for the escape of gas and fluids. The stomach is aspirated and washed if it does not drain properly after drinking water. Vitamin therapy is given hypodermically. After the second or third day the tube is removed and reinserted later if necessary to wash the stomach. Water is started and gradually increased to liquid nourishment and thin foods.

Postoperative complications are managed as they appear. The most common one is bronchial occlusion. This occurs early and it is indicated by a high fever, fast pulse and respiratory difficulty. A flat plate of the chest will determine respiratory difficulty and immediate bronchial aspiration will prevent a fatal pneumonia and result in immediate fall of the fever. It is the most common cause of death following gastric surgery and must be relieved at once to prevent pneumonia. It is one of the first concerns and always watched for carefully. I have had one in fifty cases and immediate aspiration resulted in rapid fall of the temperature and recovery of the patient.

SUMMARY

1. The importance of a careful preoperative evaluation of the patient's physiologic resources to undergo major gastric surgery is emphasized. The local anatomic preparation of the stomach for surgical approach is deemed essential.

2. The anesthetic and surgical procedure are discussed and preferences are specified. The relative advantage of the antecolic and the retrocolic type of anastomosis is mentioned. Points of technical importance are stressed.

3. The measures of postoperative management are described and reasons discussed.

1612 Professional Building.

CHEMOTHERAPEUTIC AND SURGICAL TREATMENT OF ACUTE OSTEOMYELITIS

J. ALBERT KEY, M.D.

ST. LOUIS

In acute osteomyelitis of hemotogenous origin in a patient more than 2 years of age, a staphylococcus is the offending organism in more than 90 per cent of the cases and, in a patient less than 2 years of age, in about half of the cases the disease is caused by staphylococci, and, in almost all of the remainder, the disease is caused by streptococci. It is thus evident that chemotherapeutic agents which are effective against these organisms should be used in the treatment of this disease.

Fortunately, there are now penicillin and sulfonamides which are effective against both staphylocci and streptococci. Consequently, it is not necessary or desirable that the etiologic agent be identified before chemotherapeutic treatment of the disease is started. As a matter of fact, it is not necessary or even desirable that the diagnosis of acute hematogenous osteomyelitis definitely be established before treatment of the disease is started, and chemotherapeutic treatment should be started as soon as the disease is suspected.

Early chemotherapeutic therapy is important in acute pyogenic infection in bone for several reasons. In order that the drug may exert its bactericidal or bacteriostatic effect on the causative bacteria, it is necessary that it come in direct contact with the bacteria and that this contact be effected in a fluid in which the drug is present in sufficient concentration. Early in the disease the bacteria are exposed to tissue fluids which are in intimate contact with the blood stream and drugs in the blood stream reach the bacteria in almost the same concentration as that in which they are present in the blood. As the disease progresses the bacteria invade and kill the adjacent tissue and produce an abscess which is surrounded by a zone of inflammatory tissue in which the circulation is relatively poor. Consequently, drugs present in the blood

From the Department of Surgery, Washington University School of Medicine, St. Louis, Mo.

stream reach the bacteria in relatively low concentration and cannot exert their maximum beneficial effect.

In addition to the fact that penicillin and sulfonamides are more effective when administered early in the disease, it is important that the drug be started as early as possible because it tends to stop both the general dissemination of the disease and the extension of the local lesion. The bacteria tend to invade the blood stream and cause septicemia and secondary foci of osteomyelitis, metastatic abscesses, thrombophlebitis or infection in serous cavities. The chemotherapeutic agents are most effective against the bacteria in the blood stream because they come in intimate contact with them in the fluid in which they are present in the maximum concentration and thus may be expected to clear the blood stream of susceptible bacteria, and not only save the life of the patient, but prevent the development of secondary foci and metastatic abscesses.

The extension of the local lesion not only causes progressive death of adjacent bone, but may invade and cause irreparable damage to neighboring joints and soft tissues and result in permanent crippling. The death of the infected bone, especially in staphyloccic infections, may produce massive sequestra which cannot be sterilized by chemotherapy and require surgical removal if the local disease is to be eradicated.

In view of this, it is understandable why I wish to emphasize the early diagnosis of acute hematogenous osteomyelitis at every opportunity. And the key to early diagnosis is to suspect the presence of the disease in every child who is sick with moderate or high fever and refuses to use one extremity and objects strenuously when this extremity is manipulated or palpated. Such a child may have infantile paralysis, but further examination and observation will enable the physician to make the differential diagnosis. The same is true of acute rheumatic fever, cellulitis, acute appendicitis, soft-tissue abscesses and other conditions which are sometimes diagnosed when the patient is suffering from an early acute hematogenous osteomyelitis.

The point is that the pediatricians and general practitioners who see these patients in the early stages of the disease are not osteomyelitis conscious and do not think of this condition until localized heat, redness, swelling and abscess formation are present and a fluctuant soft tissue mass indicates the presence of pus. Then they suggest osteomyelitis and wish to confirm this diagnosis with roentgen ray. The aforementioned are late signs of the disease and indicate an extensive and well matured local lesion, usually with extensive destruction of bone.

The roentgen ray is not a useful agent for the early diagnosis of acute osteomyelitis. Pus and inflammatory tissue in the bone are not demonstrated by the roentgen ray. The appearance of the bone as shown by the roentgen ray is normal and until sufficient time has elapsed to permit gross changes in the bone structure or contour. These changes are: (1) absorption of the original bone structure, especially trabeculae in cancellous bone, which results in localized areas of rarefaction and gives the bone a worm eaten appearance; and (2) the simultaneous production of new bone which is most commonly demonstrable as a thin layer of subperiosteal new bone. As a rule these changes are not demonstrable in the roentgen ray until about two weeks after the onset of the disease. In young children a longer period is usually necessary. The time varies directly with the size and density of the bone. By the time changes can be demonstrated in the roentgen ray the patient may be dead or doomed to chronic osteomyelitis or well on the way to recovery.

It is reiterated that loss of function in an extremity with pain on movement and tenderness in a child with moderate or high fever should lead physicians to suspect acute osteomyelitis. If no other satisfactory cause for the patient's illness is demonstrable, chemotherapy for the acute pyogenic infection should be started immediately and continued until the symptoms subside or as long as is indicated by the future progress of the patient. If this rule is followed, the careful physician undoubtedly will subject an occasional patient to unnecessary chemotherapy. On the other hand, he will abort or greatly ameliorate the course of the disease in patients with acute osteomyelitis. It is with awareness of the danger of toxic reactions and producing sensitivity to sulfonamides by the injudicious use of these drugs that I recommend the early use of chemotherapy when this disease is suspected and before the diagnosis is fully established or the etiologic agent is determined.

It is to be noted that the disease varies greatly in its severity. Depending upon the virulence of the infecting organism and the resistance of the host, the disease may be fulminating in character and run a rapidly fatal course, or it may be relatively mild and cause only a small abscess in the bone which may heal spontaneously without treatment. In the usual case the patient is quite sick with high fever and leukocytosis and, unless adequate treatment is instituted early in the disease, extensive destruction of the involved bone may be expected. Without chemotherapy the mortality is about 25 per cent and in the survivors chronic osteomyelitis and permanent crippling are not infrequent sequelae.

The modern treatment of acute osteomyelitis includes chemotherapy, general and local measures for the comfort and support of the patient and the limiting of the spread of the disease and, in selected cases, surgical drainage of the focus in the bone is advisable.

CHEMOTHERAPY

Penicillin, a more potent antibacterial agent against staphylococci than any of the sulfonamides,

is the drug of choice. It has the further advantage that it is practically nontoxic. It has the disadvantages that it is expensive and is not always available. It is not effective when administered by mouth, but must be injected in sterile solution intravenously or intramuscularly. It is excreted rapidly and if an effective concentration is to be maintained in the blood the drug must be administered by continuous intravenous drip or the injections must be repeated every two or three hours, and it is difficult to assay in the blood.

Of the sulfonamides, sulfathiazole, sulfadiazine and sulfamerazine are the drugs most effective against staphylococci and these are the sulfonamides of choice in the order mentioned. They have the advantages that they are relatively cheap, are readily obtained, are effective when administered by mouth, and are easily assayed in the blood and the concentration of the drug present in the blood at a given time can be determined. They have the disadvantages that they are not as effective against staphylococci as penicillin, they are toxic and are not tolerated by some patients, and they may induce sensitivity in the patient and interfere with future administration of the drug to this patient.

Both penicillin and the sulfonamides are effective locally against susceptible bacteria, but only against bacteria which are on or near the surface of the wound, because the drug must come in direct contact with the bacteria in order to be effective.

Penicillin and the sulfonamides are not incompatible and can be administered to a patient simultaneously and may act synergistically because the offending bacteria may be resistant to one drug and not to the other.

Consequently, when acute hematogenous osteomyelitis is suspected chemotherapy should be started immediately, even before the patient is hospitalized if possible. The intensity of the chemotherapy should vary with the severity of the symptoms. In a moderately sick adolescent or adult, from 10,000 to 20,000 units of penicillin should be given intramuscularly and from 10,000 to 15,000 units intramuscularly should be given every three hours until the symptoms subside or some other treatment is indicated. In a very severely ill patient this dosage may be doubled or the drug may be administered intravenously every two hours or by continuous intravenous drip (from 100,000 to 200,000 units in twenty-four hours). In infants and children, smaller doses are used—from 5,000 to 15,000 units in the initial dose and from 3,000 to 10,000 at each subsequent dose.

Dosages of penicillin are not yet standardized, but due to the low toxicity of the drug there is little danger of harm from overdosage. As the symptoms subside the size of the dose is decreased and the interval between injections is lengthened; the drug is discontinued after the temperature has been normal for ten days or so and the local symptoms have subsided or a chronic osteomyelitis is established.

If penicillin is not immediately available or if the disease does not respond to penicillin, sulfathiazole or sulfadiazine should be given by mouth. To a moderately sick adolescent or adult two grams (30 gr.) should be given as the initial dose and one gram (15 gr.) should be given every three hours thereafter until the symptoms subside or there is some reason for discontinuing the drug. An equal amount of bicarbonate of soda should be given with each dose of sulfonamide and the patient should drink plenty of water while taking the drug. The oputput of urine should be recorded and maintained at a satisfactory level and the patient should be watched for the development of toxic symptoms.

Children should receive smaller doses of the drug, but it is to be noted that children are more tolerant of the sulfonamides than are adults and proportionately larger doses may be given to children if indicated. When facilities for determining the concentration of the drug in the blood are available, an effort is made to maintain a level of from 4 to 6 mg. per cent in the blood. As the symptoms subside the dosage of the drug is decreased and about two weeks after the temperature is normal and the local symptoms have subsided or chronic osteomyelitis is established it is discontinued.

If penicillin is available later and indicated it may be administered with the sulfonamide or substituted for it.

It is to be noted that immediate clinical improvement is not to be expected and it may be two or three days before the results of chemotherapy are evident.

The patient should be hospitalized as early in the disease as possible. This may be economy in the long run.

OTHER MEASURES

If the patient is dehydrated, the fluid balance should be corrected and maintained at a satisfactory level.

The involved extremity should be immobilized, preferably in a massive hot wet dressing. This is not changed more often than once in twenty-four hours, and may be combined with traction or splints if necessary.

Pain should be relieved by sedatives if necessary and the patient permitted to rest.

The patient should be given large amounts of fluids and diet should be adequate in calories and vitamins. If the patient does not take fluids in adequate amounts these should be administered intravenously. Anemia should be corrected by repeated small blood transfusions.

SURGICAL DRAINAGE

Early surgical drainage of the focus is no longer necessary or even indicated because it is possible in most instances to clear the blood stream of bacteria and stop the progress of the infection by chemotherapy and, in some instances, the focus in the bone may be sterilized by chemotherapy alone. These are cases in which effective chemo-

therapy has been begun early in the disease and has prevented massive necrosis of bone and the formation of large abscesses. This is especially apt to occur in infants and young children.

Now that chemotherapy is available there is considerable difference of opinion among authorities as to what patients should be operated upon and when the operation should be done in a given patient. Some authors believe that full reliance should be placed on chemotherapy and that drainage or even repeated aspiration of abscesses is contraindicated. Others believe that abscesses should be drained by small medical incisions through the skin when they become subcutaneous and the toxic symptoms have subsided.

I can see no valid reason for not draining a pyogenic focus, if this can be done with safety. I believe that these patients should be operated upon and the abscess drained and the bone opened as soon as the patient is in satisfactory condition for the operation and the location of the disease in the bone can be fixed. The chemotherapy is continued after the operation and can be used both locally and generally.

The operation is not done as an emergency but at a time when the patient's fluid balance and anemia have been corrected, when he has had some rest and after he has had enough chemotherapy to assure a satisfactory concentration of the drug in the blood. The operation is for drainage only and no attempt is made to remove all of the dead or diseased bone. The focus is approached by the most direct route which avoids injury to or exposure of important structures. The periosteum is incised and the bone is opened with one or more drill holes, or a window may be removed from the cortex with a thin sharp osteotome. Care is taken not to perforate or injure the epiphysis. The wound then is sprinkled with sulfathiazole powder and packed loosely with petrolatum gauze, covered with a dry dressing and the extremity is immobilized in a padded plaster of Paris cast.

Rarely, in a patient who is extremely ill and who has not had adequate early treatment, early drainage is indicated. This is done as soon as the dehydration has been corrected and without waiting for the chemotherapy to take effect.

If penicillin is to be used locally, a small rubber catheter is placed in the bottom of the wound and led out through the cast. From 5 to 10 cc. or more of solution of penicillin containing from 250 to 500 units of the drug per cc. is injected through the catheter two or three times a day. The local and systemic chemotherapy and the supportive treatment are continued as long as indicated.

The cast should remain on and the wound undisturbed for about four weeks. At the end of this time the cast is removed and the wound dressed with petrolatum gauze and a new cast is applied if indicated. This second cast may be left on for from two to four weeks and then replaced if necessary. Before discontinuing the immobilization, the condition of the bone should be checked by the roentgen ray. This is because even in cases in which the disease appears to be cured by chemotherapy the destruction of the bone may be so extensive that pathologic fractures may occur unless the extremity is protected until regeneration of bone has occurred. Progressive absorption may continue for several weeks after the disease apparently is arrested. The wound may heal or the patient may develop chronic osteomyelitis. If the latter occurs, the sequestra should be removed relatively early. This can be done with safety and a satisfactory result generally can be achieved if the surgery is adequate and is combined with chemotherapy.

4952 Maryland Avenue.

CASE REPORTS OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 83

PRESENTATION OF CASE

S. V. T., a 47 year old, white, married housewife, entered Barnes Hospital for the fourth time on April 7 and died April 9, 1945.

First Hospital Admission.—May 23 to August 23, 1941.

Chief Complaints.—Diarrhea and abdominal pain.

Family History.—Irrelevant.

Past History.—Except for one mild attack of pneumonia, the patient apparently had been well since childhood. The systemic history was not significant. She lived in a small Illinois town. Her habits were moderate.

Present Illness.—Six years previous to admission, during the third month of pregnancy, the patient developed diarrhea rather suddenly. This followed soon after a vacation spent in a town in southern Missouri. She had several stools a day which became increasingly loose. Severe diarrhea continued for five months. After delivery of her child she gradually recovered. During the next three years she had diarrhea only occasionally and particularly when she became excited or was under stress. In July 1938 she developed severe abdominal cramping pains associated with a return of diarrhea. For the first time fever, 100 F. to 101 F., appeared. She had as many as fourteen watery stools a day. In November 1938 an anal fistula was excised, after which she was troubled by excessive bleeding. During the winter of 1938 she entered a hospital where amebae were found in the stools. For an undisclosed reason the patient remained but one week in the hospital and no active treatment was given. Thereafter there was some degree of spontaneous recovery. She slowly regained her appetite, ate a regular diet and her weight rose to 110 pounds. During this time she felt generally much stronger, although the stools were still loose and

"Smoothage" IN THE CONSTIPATION OF PREGNANCY



The constipation frequently encountered during pregnancy, due to pressure of the fetus on the pelvic bowel, lack of exercise, and restricted diet, is alleviated by Metamucil.

The Smoothage of Metamucil encourages easy, gentle evacuation. It does not interfere with the absorption of vitamins or other food factors.

"Smoothage" describes the gentle, nonirritating action of Metamucil—the highly refined mucilloid of a seed of the psyllium group, Plantago ovata (50%), combined with dextrose (50%).

METAMUCIL *is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois*

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

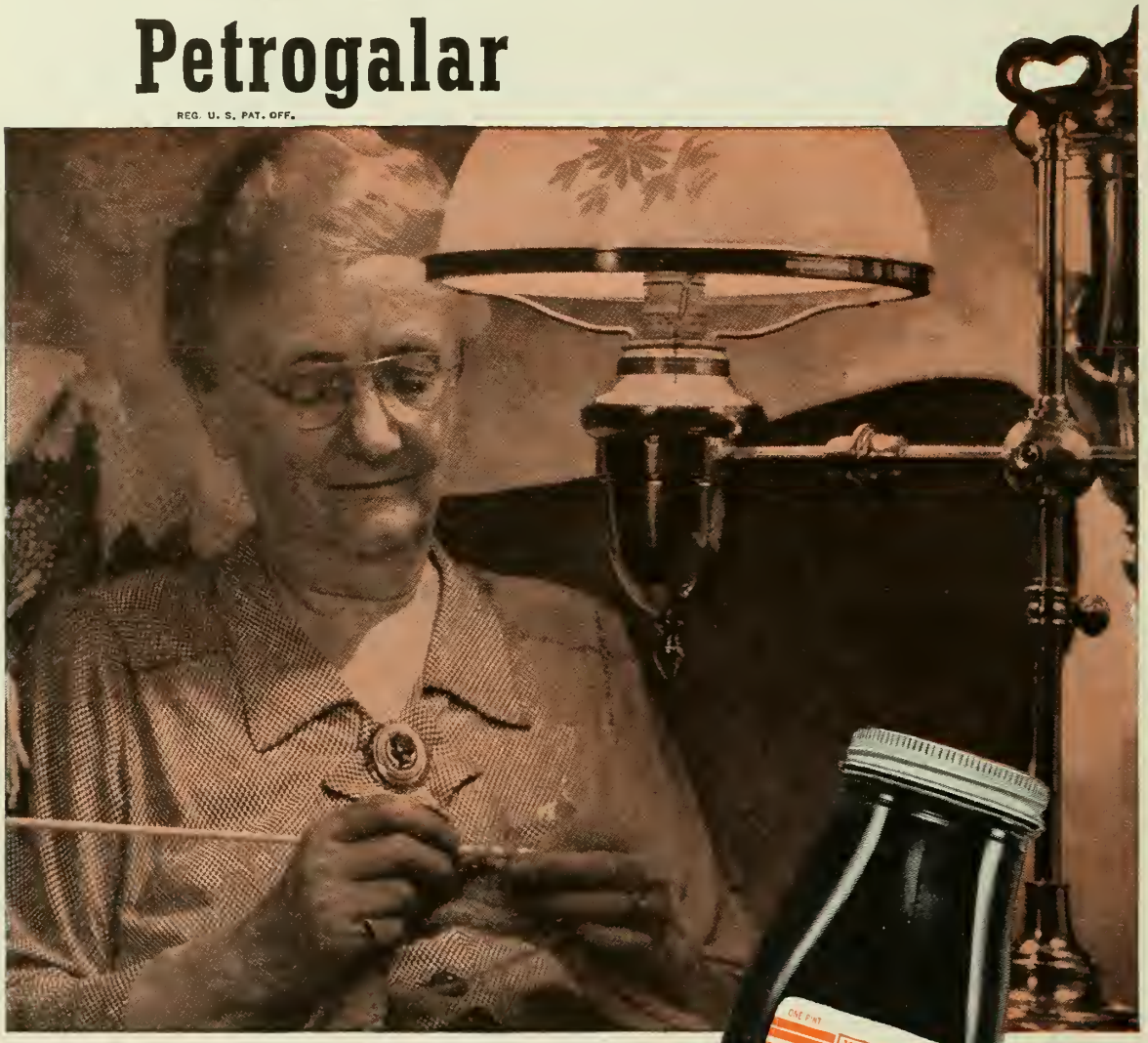
SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

Wyeth
REG. U. S. PAT. OFF.

Cascara Petrogalar

REG. U. S. PAT. OFF.





A USEFUL LAXATIVE—Cascara Petrogalar combines the mild stimulating action of cascara with the softening effect of homogenized mineral oil. Prompt, easy evacuation of soft, formed stools is assured without undue strain or discomfort. Especially useful in treating stubborn cases and in elderly persons, its pleasant, dependable action helps to restore "habit time" of bowel movement. CASCARA PETROGALAR—an aqueous suspension of Mineral Oil, 65%, with aqueous extract of Cascara Sagrada, 13.2%.

Supplied in 8 fl. oz. and pint bottles

WYETH INCORPORATED • PHILADELPHIA 3 • PA.

frequent. During the year previous to admission, two courses of emetine, Yatren and Carbarsone were prescribed by her physician, but she slowly lost weight and symptoms did not improve.

Physical Examination.—Temperature was 37.2 C., pulse 100, respirations 18 and blood pressure 100/65. The patient was a markedly emaciated, sallow, pale, white female who was alert, cooperative and in no acute distress. She weighed only 71 pounds. The skin was dry and there was scaling over the anterior surface of the legs. Lymph nodes were not enlarged. The eyes and eyegrounds were normal. The teeth were in poor repair with numerous cavities and the gums were receding. The tongue was not remarkable. There was slightly increased dulness at both apices with suppression of breath sounds. No rales, however, were heard. The heart was not enlarged. The rhythm was regular. There were no murmurs or other abnormalities. The abdomen was scaphoid and soft. There was moderate tenderness of the left lower quadrant and some in the epigastrium. No resistance appeared. The liver was felt two finger breadths below the right costal margin. The right kidney was questionably palpated. Pelvic examination was not remarkable. The rectal sphincter tone was good. There was a tendency toward clubbing of the fingers.

Laboratory Findings.—Blood count: red cells were 3,800,000, hemoglobin 11.4 gms., white cells 12,000; differential count: "stab" forms 40 per cent, segmented forms 48 per cent, lymphocytes 4 per cent, monocytes 8 per cent. Urinalysis: specific gravity 1.003, albumin 2 plus; microscopic, many pus cells. Stool examination: guaiac negative, no amebae; culture, negative for typhoid and dysentery. Kahn reaction was negative. Nonprotein nitrogen was 17 mgs. per cent. Gastric analysis: fasting specimen, free acid 69 degrees, combined acid 9 degrees. Roentgenogram of the chest showed the heart and aorta were within normal limits. Hilus shadows were prominent. Lung markings were coarse. The left costophrenic angle was hazy, the result of pleurodiaphragmatic adhesions. A barium enema showed prompt canalization of the colon without evidence of destructive lesion. There was shortening of the colon and narrowing of the lumen. The region involved extended from the hepatic flexure to the rectosigmoid juncture. In this region there was suppression of all haustrations. The margin of the colon was very irregular with evidence of markedly increased mucus production. Cholecystogram showed a pathologic gallbladder. Electrocardiogram showed normal findings.

Course in Hospital.—On proctoscopy no definite ulcers were noted in the first five inches of the rectal mucosa, but about three inches beyond was an irregular fenestrated mucous membrane which appeared scarred. Covering the wall was a large amount of pus which was negative for amebae. The patient was placed on a high caloric, high vitamin, bland diet and given bismuth subnitrate and paregoric. Sulfaguanidine therapy was started; Yatren also was given. Succeeding stool examinations showed faint traces of blood. Subsequent urine specimens revealed less albumin, and pus cells gradually disappeared. During the patient's stay in the hospital she improved markedly in strength and general appearance, and gained 20 pounds. She was discharged to the Gastrointestinal Clinic.

Second Hospital Admission.—July 21 to July 27, 1944.

Interval History.—The patient attended the Outpatient Clinic from August 1941 until September 1942 where she received sulfaguanidine at intervals. She then became very much worse. Diarrhea and abdominal cramping continued and she spent most of the time from October 1942 to November 1943 in bed. She then gradually improved, with bowel movements reduced to three or four a day and abdominal pains somewhat decreased. She returned to the Outpatient Department in June 1944 when a stricture of the rectum was found. Readmission to the hospital was advised for consideration of surgical treatment.

Physical Examination.—Temperature was 37.6 C., pulse 78, respirations 20, blood pressure 75/50. The patient appeared poorly nourished and chronically ill. The skin was loose and dry. The tongue was coated but showed no atrophy. Intensified whisper and voice sounds appeared in an area below the left apex posteriorly. No rales were heard. The abdomen was flat. No masses or organs were palpable. There was tenderness over the left lower quadrant. Pelvic examination was negative. The rectal sphincter was spastic. A definite stricture just above the anus was felt. There was definite clubbing of the fingers and toes.

Laboratory Findings.—Blood count: red cells 3,850,000, white cells 8,400. Urinalysis was normal. Stool examination showed no parasites.

Course in Hospital.—Rectal operation was considered but a colectomy finally was decided upon. The patient was discharged after a few days.

Third Hospital Admission.—August 8, 1944, to February 10, 1945. The patient was admitted to the surgical service for colectomy one week after previous discharge.

Course in Hospital.—Through a low right rectus incision, the entire colon from the rectum up to the hepatic flexure was palpable as thickened tube. About six inches of the ascending colon from the cecum appeared to be fairly normal. A terminal ileostomy was performed. One week following operation there was elevated temperature, pain in the chest, friction rub and blood-tinged sputum, suggesting a pulmonary infarction, for which penicillin was given. The patient apparently recovered from this infection. Although at first the ileostomy functioned well, elimination through the opening gradually became impaired, while intermittent cramping, abdominal pain, nausea and vomiting developed. At this time there was an anemia of 2,900,000 red cells and 9.0 gm. of hemoglobin. Total blood proteins were 4.8 gm. per cent with albumin

2.9 and globulin 1.9. Blood sodium chloride was 486 mg. per cent and the CO_2 combining power was 72.6. mg. per cent. Urinalysis was normal. Open films of the abdomen showed a large amount of gas in the small intestine giving the typical herringbone and step ladder effect seen in intestinal obstruction. Barium introduced through the ileostomy opening showed canalization to higher levels and moderately dilated small intestine, characteristic of obstructing retention. With an ileostomy catheter in place, the patient did fairly well. When it was removed, abdominal pain and signs of obstruction recurred. In the meanwhile, the patient was given frequent feedings and supported by parenteral therapy. She remained in the hospital for six months and on discharge there was some improvement in that she had gained weight, had a normal red blood count, normal temperature and was comfortable on a simple diet of frequent small feedings. Before she left, a small fecal fistula had developed close to the ileostomy.

Fourth Hospital Admission.—April 7 to April 9, 1945.

Interval History.—On returning home from the hospital, the patient spent most of her day in bed and managed to maintain a weight of about 70 pounds for the first month. Then, cramping and abdominal pain reappeared with some severity for which she took codeine every four hours. The stool continued to be liquid and frequent. A fecal fistula appeared just superior to the operative site and soon thereafter another fistula appeared. About one month previous to admission the abdomen became distended, and the patient was nauseated and vomited occasionally. These symptoms progressively increased until she refused to eat and took only sips of water because of vomiting, or fear of it. She remained prostrated and became confused.

Physical Examination.—Temperature was 36 C., pulse 110, respirations 24 and blood pressure 70/?. The patient appeared to be in a terminal condition with great emaciation. Her weight was estimated at no more than 50 pounds. She was extremely weak and unable to cooperate in giving a history or with the physical examination. The skin was cold, pale, dry and questionably jaundiced. The eyeballs were soft; there were several carious teeth; the tongue was hard and desiccated. Respirations seemed labored and difficult. No abnormalities were noted in the lungs. The heart likewise showed no abnormalities other than very weak and distant sounds. There was considerable muscle spasm throughout the abdomen which was not distended. No organs were palpable. An ileostomy tube protruded through the right rectus muscle. Above it was a fistula which was discharging purulent material. A second one appeared to the left, surrounded by some induration, redness and a mass which was not further described.

Laboratory Findings.—Blood count: red cells 4,650,000, hemoglobin 13 gms., white cells 14,500; differential count: myelocytes 4 per cent, juvenile forms 6 per cent, "stab" forms 20 per cent, segmented forms 60 per cent, lymphocytes 24 per cent, monocytes 6 per cent. Urinalysis showed albumin 1 plus.

Course in Hospital.—The patient was given intravenous fluids and placed in an oxygen tent. After an initial feeble response, she relapsed into coma and died within forty-eight hours. The temperature fell to 35 C. and the pulse rose to 130 beats per minute.

CLINICAL DISCUSSION

Dr. Harry Alexander: This patient was a middle-aged woman who had some form of colitis from which she died. Our first problem is to determine the specific type of disease. Her history before this illness was eventful. At one time Entamebae were found in the stool. Dr. Duden, did she have amebic dysentery?

Dr. Charles Duden: Probably not, but it is possible.

Dr. Alexander: How, then, do you account for the identification of Entamebae in the stool?

Dr. Duden: This observation could have been incidental. The parasites were not identified as *Entameba histolytica* and were not observed again.

Dr. Alexander: Dr. Scheff, what do you think of this?

Dr. Harold Scheff: I agree. There was no record that trophozoites were seen.

Dr. Alexander: We are told also that the usual therapeutic agents for amebic dysentery were used without success. She had a constant diarrhea for three years before the organism was found. May she not have had secondary infection which would not have responded to specific treatment?

Dr. Scheff: Yes, it is true that some chronic cases of dysentery fail to respond to treatment.

Dr. Alexander: I have been told that chronic amebiasis which has been untreated may not show amebae.

Dr. Scheff: About 10 per cent of the cases of amebiasis fail to respond to treatment.

Dr. Alexander: That means, then, that there is a 10 per cent chance that this patient had amebiasis?

Dr. Scheff: Yes.

Dr. Alexander: What is your opinion, Dr. Duden?

Dr. Duden: I agree.

Dr. Alexander: May we hear from you, Dr. Tsuchiya?

Dr. Tsuchiya: I do not agree. When emetin with either chiniofon or carbarsone is given, the percentage of cases giving a favorable response is higher than 90 per cent. Emetin acts through the blood as well and affects trophozoites within the wall of the colon temporarily, if not permanently.

Dr. Alexander: You are speaking of the initial infection?

Dr. Tsuchiya: Yes.

Dr. Alexander: Would it not be difficult to clear up the secondary infection after three years?

Dr. Tsuchiya: Yes, it would.

Dr. Alexander: Is there anyone who believes



a clinical supply

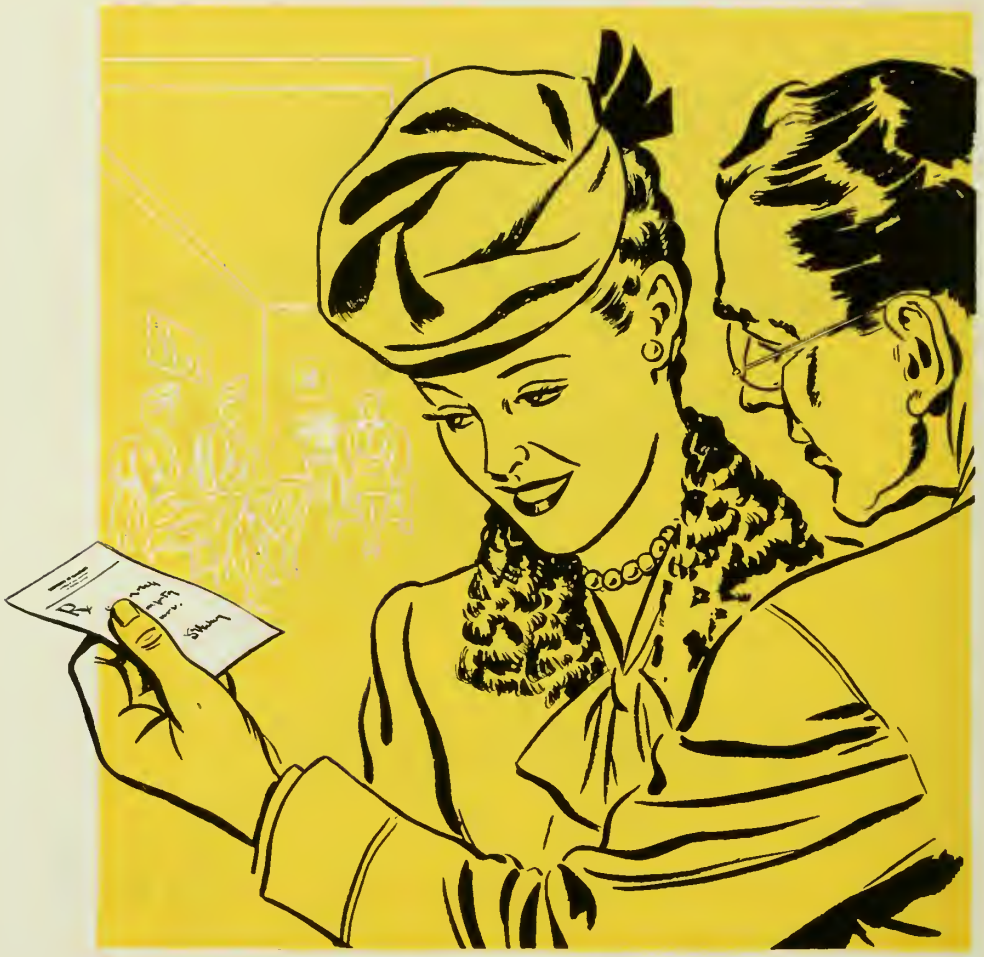
free!

If you would like a supply of sample-size Benzedrine Inhalers—*free of charge and without obligation*—just write "Six Inhalers" on your prescription blank and mail to *Smith, Kline & French Laboratories, Dept. 17, 429 Arch St., Phila. 5, Pa.*





sample size



In Estrogenic Therapy **TOLERANCE**

One of the important advantages of "Premarin" lies in the fact that it is exceptionally well tolerated. Although highly potent, "Premarin" rarely produces unpleasant side effects—a statement which finds ample corroboration in the extensive bibliography. In "Premarin" the physician will find a medium for estrogenic therapy which is noted for its therapeutic effectiveness. "Premarin" is derived exclusively from natural sources and its administration is usually followed by what is invariably described by the patient as a general feeling of well-being.

ESSENTIALLY SAFE · HIGHLY POTENT · ORALLY ACTIVE
NATURALLY OCCURRING · WATER SOLUBLE
WELL TOLERATED · IMPARTS A FEELING OF WELL-BEING

"Premarin" *conjugated estrogens (equine)*
Reg. U. S. Pat. Off
TABLETS

Available in 2 potencies: No. 866 (the YELLOW tablet), in bottles of 20, 100 and 1,000 tablets.
No. 867 Half-Strength (the RED tablet), in bottles of 100 and 1,000 tablets.

Ayerst

AYERST, McKENNA & HARRISON LTD., 22 East 40th Street, New York 16, N. Y.

that this patient had bacillary dysentery? Apparently not. On two occasions there were signs in the upper lobes of the lungs. The radiologist told us that there was thickening of the pleura. Could this be tuberculosis?

DR. SCHEFF: Tuberculosis of the entire colon is very rare.

DR. ALEXANDER: We seem to be agreed that this patient probably had a nonspecific ulcerative colitis. Dr. Duden, what do we know about the cause of this disease?

DR. DUDEN: There is no unanimity of opinion. Most people believe that it is some type of infection. Others feel that it is based on allergy, and still others that it is entirely psychogenic.

DR. ALEXANDER: Do you believe that Bargen's bacillus can cause ulcerative colitis?

DR. DUDEN: No.

DR. SCHEFF: May I add my "no" also?

DR. ALEXANDER: When first announced by Bargen, it was well received, but there has been no substantial confirmation since. Could colitis be a nutritional deficiency?

DR. DUDEN: There is no good evidence. In patients with known deficiencies the signs are not like those of chronic ulcerative colitis.

DR. SCHEFF: Patients with nutritional deficiency show more prominent lesions in the small intestine. The colon is only occasionally involved.

DR. ALEXANDER: What involvement of the intestine is there in pellagra?

DR. CARL V. MOORE: Lesions of the intestine in nutritional deficiency are not too well understood. The radiograph shows dilatation of the colon and puddling of barium in the small intestine. These abnormalities usually disappear after specific treatment. The same is true in sprue.

DR. ALEXANDER: Did this patient follow the usual course of chronic ulcerative colitis?

DR. SCHEFF: Yes, she had the characteristic remissions and relapses.

DR. ALEXANDER: Toward the end she had an extremely low value for plasma proteins and a high carbon dioxide combining power—72. The serum chlorides were 460. She was given parenteral food. Dr. Elman, will you comment on this phase of her illness?

DR. ROBERT ELMAN: I am not as much impressed by the carbon dioxide combining power of 72 as I am by the low plasma albumin—2.9 grams.

DR. ALEXANDER: What is a low normal for plasma albumin?

DR. ELMAN: Four grams.

DR. ALEXANDER: She had a value 25 per cent lower than that and still had no edema. How low must it go to cause edema?

DR. ELMAN: I do not believe that one can speak of a critical level. There are many other factors that control the interchange of fluid.

DR. ALEXANDER: I had understood that in animals there was a certain definite critical value.

DR. ELMAN: I doubt that. One can only say that as albumin decreases, the tendency toward the formation of edema increases. Some patients have edema with plasma albumin concentration of 2 gms. per cent and others do not.

DR. ALEXANDER: What are the other factors?

DR. ELMAN: Physical activity and dependency of some part of the body, venous obstruction, ingestion or injection of water or salt solution, and the condition of the cardiovascular system. During World War I, many people who were greatly emaciated did not develop edema until they were up and about and drank water.

DR. ALEXANDER: What are the effects, then, of the deficiency of albumin?

DR. ELMAN: All reparative processes are inhibited. A low plasma albumin means that all of the other stores of protein in the body are low.

DR. ALEXANDER: Would parenteral amino acids be of value in such a patient?

DR. ELMAN: They would not correct the deficiency at once nor would plasma itself. The plasma albumin constitutes only about 1/30 to 1/40 of the total protein in the body. If we say that an average sized man has 3,000 cc. of plasma it will require 30 grams of albumin to raise the value of the plasma albumin 1 gram. This is only 1/30 of the deficiency. It will, therefore, require not less than 1,000 grams of absorbed or injected protein food to bring about complete restoration to normal.

DR. ALEXANDER: What is the accepted treatment for this disease, Dr. Duden?

DR. DUDEN: There is no accepted treatment. Everyone stresses proper nutrition—high proteins and vitamins. Other agents used include sera, vaccines and intestinal antiseptics.

DR. ALEXANDER: What evidence is there, Dr. Eyermann, that treatment on the basis of allergy would be of value?

DR. CHARLES H. EYERMANN: None in such advanced disease as indicated by the roentgenogram and palpation of the colon during the laparotomy.

DR. ALEXANDER: What is the value of colectomy?

DR. ELMAN: I favor the operation.

DR. ALEXANDER: When should it be done?

DR. ELMAN: That is difficult to answer. In this patient we were preparing to perform a colectomy but we hoped to improve her general condition by a preliminary ileostomy.

DR. ALEXANDER: What do you think of this, Dr. Duden?

DR. DUDEN: This is a chronic recurrent disease and it is extremely difficult to make a decision about a major operation. The truth of the matter is that we cannot predict who will recover and who will not. If we could, we could then select some for surgical treatment. There is also a very considerable operative mortality varying from 18 to 25 per cent.

DR. ELMAN: I think that figure has been somewhat lower during the last five years.

DR. ALEXANDER: We should mention some of the

complications. This patient had clubbing of the fingers.

Dr. W. Barry Wood, Jr.: That occurs rarely in diseases of the colon.

Dr. Alexander: There is apparently no explanation for it. What other complications are there?

Dr. Scheff: Polyposis in 10 per cent, carcinoma in from 2 to 3 per cent, and rare perforation and abscess formation.

Dr. Duden: A frequent early complication is fistula. This patient had a fistula early and it was removed.

Dr. Alexander: Was the ileum normal?

Dr. Elman: It was normal at the time of the operation. She did not do well after the operation and it is probable that the ileum was involved later.

Dr. Scheff: The liver was enlarged and the diaphragm was high. She may have had some lesion of the liver.

Dr. Alexander: Yes, that is possible. It may be an abscess or some other nonspecific condition.

Dr. Carl Harford: A rare complication is pylephlebitis with abscess of the liver.

Dr. John Smith: Could this be lymphopathia venereum?

Dr. Alexander: That is possible. We do not have a Frei test on this patient. In summary, then, we believe that this patient had a chronic ulcerative colitis. There is a 10 per cent chance that it is amebiasis. The patient ran the usual course of the idiopathic form of the disease.

ANATOMIC DIAGNOSIS*

Healed ulcers of the colon with atrophy.

Fibrous thickening and stenosis of the large intestine with stricture of the rectum (history of identification of *Endameba histolytica* from the stools eight years previously).

Ileostomy stoma in midline of lower anterior abdominal wall (history of ileostomy and skin graft —eight months).

Dehydration and emaciation, advanced.

Ulcerative ileitis.

Fistula between anterior abdominal wall and ileum.

Perforation of the ileum.

Liquid feces in peritoneal cavity (150 cc.).

Bronchopneumonia of the lower lobes of the lungs.

Gastric and intestinal pneumotosis.

PATHOLOGIC DISCUSSION

Dr. Robert Moore: The colon in this patient was only about half as long as normal. The cecum and a part of the ascending colon were not unusual, but the entire transverse and descending colon were thick walled and indurated. The mucosa was smooth. In the rectum there was intense fibrosis and constriction of the lumen to not more than 5 mm. in diameter. Throughout the ileum there were numerous small ulcers penetrating into the submucosa. One of these had perforated and the peritoneal cavity contained 150 cc. of a thick fluid similar to that inside the intestine. There were the ileostomy wound and the fistulas described clinically. There were extreme dehydration and emaciation. There was bronchopneumonia in the lower lobes of both lungs.

Microscopic study of the colon shows complete replacement of the mucosa and submucosa by fibrous tissue. The muscularis is intact. The ulcers in the small intestine are flask-shaped but no entamebae can be demonstrated.

Our diagnosis is a nonspecific chronic ulcerative colitis.

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

CASE 84

PRESENTATION OF CASE

A. A., a 42 year old married housewife, entered Barnes Hospital on February 14 and died February 21, 1945. The patient was comatose on admission and the history was secured from her sister, daughter and husband.

Chief Complaint.—Fever and skin eruption.

Family History.—Irrelevant.

Past History.—The patient apparently had always enjoyed good health and no serious illness or operation were known. Tonsils were removed in 1925. In 1938 the patient entered Washington University Out-Patient Clinic for relief of low back pain and rapid gain in weight. Other than simple obesity and low back strain, no abnormal findings were detected. Dietary measures were instituted. The family's income level was low. The patient did housework and looked after four children and her husband who had had a nervous breakdown. He was in Arizona at the onset of the patient's present illness.

Present Illness.—The last of January the patient developed what seemed to be a gonococcal infection for which a sulfonamide drug was prescribed. The type and dose were unknown. This was continued for about two weeks. On February 9 she complained of sudden severe weakness and appeared to be feverish. In a few hours she was unable to sit up and seemed somewhat disoriented. On February 10 a rash appeared on the arms, fever continued, weakness progressed, speech became incoherent and the patient appeared drowsy but could be aroused. She was taken to a local hospital and a few hours later transferred to Isolation Hospital because of the fever and rash. On admission there, her temperature was 107.3 F. She was semistuporous and presented an acneform eruption of the arms, face and neck. She was given 5 gms. of sodium sulfadiazine, subcutaneously, because of the suspicion that she had an undisclosed infection. It was noted that her hair had been dyed and a suspicion of hair dye poisoning was entertained. Her hair was removed and sent to the city laboratory for analysis.

Laboratory findings revealed 4 plus albumin, casts, red blood cells and sulfonamide crystals in

3 New Editions . . .

THE SYNOPSIS SERIES — MOSBY

1. Hardy's 2nd Edition

SYNOPSIS OF DIAGNOSIS OF SURGICAL DISEASES OF THE ABDOMEN—Covers diagnosis of every commonly encountered abdominal surgical disease, with particular emphasis on physical signs and symptoms. Over 150 pages have been added, together with new illustrations. The material has been rearranged and 30 new chapters formed.

by **JOHN A. HARDY**. 526 pages, 100 illustrations. $5.00

Order any one—or ALL THREE of these new editions now . . . Use the coupon below, sign, and mail today!

2. Crossens' 3rd Edition

SYNOPSIS OF GYNECOLOGY—Offers in condensed form the leading points in gynecologic examination, diagnosis and treatment. The new edition includes recent advances, especially in the fields of chemotherapy and endocrinology. New illustrations and a short chapter on medicolegal problems have been added.

by **HARRY S. CROSSEN AND ROBERT J. CROSSEN**. 256 pages, illustrated. $3.00

3. Dodson's 4th Edition

SYNOPSIS OF GENITOURINARY DISEASES—A reliable refresher on all common aspects of this subject. New features include application of sulfonamides and penicillin to urology, and endocrine therapy in treatment of carcinoma of the prostate. New diagrams and illustrations improve the book's pictorial value.

by **AUSTIN I. DODSON**. 313 pages, 112 illustrations. $3.50

THE C. V. MOSBY COMPANY
3207 Washington Boulevard
St. Louis 3, Missouri

MoJ. 1/46

Gentlemen: Send me the following book(s) .....

.....

....Attached is my check. ....Charge my account.

Name .....Address .....

.....



In the City of Baqdad lived Hakeem, the Wise One, and many people went to him for counsel, which he gave freely to all, asking nothing in return.

There came to him a young man, who had spent much but got little, and said: "Tell me, Wise One, what shall I do to receive the most for that which I spend?"

Hakeem answered: "A thing that is bought or sold has no value unless it contains that which cannot be bought or sold. Look for the Priceless Ingredient."

"But what is this Priceless Ingredient?" asked the young man.

Spoke then the Wise One: "My son, the Priceless Ingredient of every product in the market-place is the Honor and Integrity of him who makes it. Consider his name before you buy."

Copyright, 1922, 1945, E. R. Squibb & Sons

E·R·SQUIBB & SONS

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

the urine. The nonprotein nitrogen on admission was 45 mgs. per cent and on the following day 105 mgs. per cent. Shortly after admission a right lateral rectus muscle paralysis was noted. The skin eruption gradually became more intense. On the second hospital day the sulfadiazine level was 14 mgs. per cent. Three days after admission, the patient was transferred to Barnes Hospital. Inquiry revealed that the patient used a black dye on her hair for the first time in May 1944 and had reapplied it four times. The last application was late in January. However, she "touched up" her hair between dyeings.

Physical Examination.—Temperature was 39 C., pulse 110, respirations 28 and blood pressure 110/80. The patient appeared acutely ill and was comatose and limp. There was a maculopapular eruption on the scalp, back of neck, arms and lower back. A few lesions over the thighs were petechial. Lesions were of varying size and shape and of irregular outline. They were of a bright red color and varied in size from punctate to papules 2 cm. in diameter. The conjunctivae were injected and there was some exudate. There was marked circumcorneal vascularization. No muscle weakness was stated. The fundi appeared normal. There were shallow superficial ulcerated areas on the hard and soft palates and some evidence of a bloody postnasal discharge. The neck was moderately stiff. The trachea was thought by one observer to be slightly deviated to the right. Fine rales were heard at both bases; no other abnormalities appeared in the lungs. The heart was not enlarged, the rhythm was regular and the sounds were of fair quality except for a soft systolic murmur at the apex. The liver was felt about four fingerbreadths below the right costal margin as a firm smooth mass with a rounded edge. Pressure over it elicited groans. No other organs or masses were palpable. There was slight pitting edema of the lower extremities. Pelvic examination was essentially negative. There were no abnormal neurologic findings.

Laboratory Findings.—Blood count: red blood cells 3,360,000; hemoglobin 11 gms. per cent, white cells 4,800; differential count: "stab" forms 7 per cent, segmented forms 68 per cent, lymphocytes 25 per cent; prothrombin time 78 per cent of normal; sternal bone marrow, essentially normal. Urinalysis: albumin 1 plus, no casts, occasional red blood cell, no sulfadiazine or tyrosine crystals, urobilinogen, plus minus. Stool examination was normal. Blood Kahn test was negative. Blood chemistry showed nonprotein nitrogen 100 gms. per cent. Total proteins were 4.6 gms. per cent, albumin 3.1, globulin 1.5; chlorides 296 mgs. per cent, cholesterol 86 mgs. per cent, CO_2 combining power 45.4 volumes per cent, icterus index minus 20, phosphorus 4.0 mgs. per cent, phosphatase 8.0 Bodanski units, sulfadiazine level 4.1 mgs. per cent, cephalin flocculation 1 plus. Lumbar puncture dynamics not stated. Spinal fluid showed 4 cells, proteins 26 mgs. per cent, Wassermann negative, colloidal gold 1111110000. Electrocardiogram showed left axis deviation.

Course in Hospital.—The patient remained stuporous. The urinary output was diminished markedly and was never more than 350 cc. per day. Albumin remained 1 plus although numerous white blood cells and thick clumps gradually appeared in the sediment; also a few red blood cells and long broad rods. The nonprotein nitrogen rose to 218 mgs. per cent on the day of death. Treatment consisted of parenteral administration of glucose solution, 1/6 molar lactate, vitamin concentrate feedings through a nasal tube and penicillin. These were of no avail. A retention catheter was inserted. Temperature ranged between 38 and 39.5 C. On February 20 more rales appeared at the bases of both lungs, respirations increased and the patient died a few hours later.

The patient's husband brought in two bottles of hair dye which the patient had been using. There were in addition three white tablets which were to be added to the dye before using. A report from the city laboratory indicated that the dye on the patient's hair contained para-phenylene-diamine.

CLINICAL DISCUSSION

DR. HARRY ALEXANDER: The patient was a woman who, according to her history, seemed well until approximately one month before death. Three weeks before admission she had a gonococcal infection for which she was given a sulfonamide drug. This woman also dyed her hair and the last application of the dye had been two weeks before the present acute illness. Therefore, according to the history, there are three possible causes of death in this case: (1) the gonococcal infection; (2) hair dye poisoning (the dye was identified as para-phenylene-diamine which is a poison); and (3) intoxication from sulfonamide drugs. Dr. Harford, is there anything suggestive of gonococcal septicemia?

DR. CARL HARFORD: It does not seem probable to me.

DR. ALEXANDER: This woman had a systolic murmur, she had petechiae, red cells in her urine and a fever. Is it your opinion that she did not have a gonococcal infection because she had been treated with a sulfonamide drug?

DR. HARFORD: That plus the fact that she also received penicillin after admission to the hospital.

DR. ALEXANDER: Is it true that an infecting organism may become "fast" to sulfonamide drugs?

DR. HARFORD: That is certainly true.

DR. ALEXANDER: Therefore, the fact that this patient received those drugs would not rule out the diagnosis of gonococcal infection. Is it possible for a microorganism to become "penicillin fast"?

DR. HARFORD: That is extremely unusual.

DR. BERTRAND GLASSBERG: In regard to becoming "fast" to penicillin in a gonococcal infection, a recent report pointed out that, in a large series of sulfonamide resistant infections, 98 per cent were cured by penicillin and only 2 per cent required

other forms of therapy. The percentage of resistance to sulfonamide drugs in gonococcal infections is about 40 per cent, in the first course at least. A large portion of that group will be cured by a second course of sulfonamide.

Dr. Alexander: Before discussing the second possibility in this case, namely, hair dye poisoning, I think we should know something about the pharmacology of the poison contained in the dye that was used. Dr. Graham, will you explain the pharmacology of para-phenylene-diamine?

Dr. Helen Graham: Para-phenylene-diamine, $C_6H_4(NH_2)_2$, is a derivative of phenol, chemically related to aniline, but with somewhat different pharmacologic properties. The active substance is believed to be an oxidation product rather than para-phenylene-diamine itself. The prominent reactions in animals are: (1) inflammation and edema, especially marked in the rabbit's head, and usually attributed to increased permeability of the capillaries; (2) rise of blood pressure attributed to stimulation of the smooth muscle of the blood vessels; stimulation of all smooth muscle is considered characteristic of para-phenylene-diamine and may explain in part the bronchiolar constriction and asthma produced in man; and (3) stimulation and depression of the central nervous system (tremor, convulsions, narcosis) with a fall of body temperature, in great contrast to the clinical case under discussion. Effects on the liver and kidney, or consequences of such effects, have not been mentioned in the reports I have read.

Dr. Alexander: What about the absorption?

Dr. Graham: It is very readily absorbed, no matter how given. Oral or subcutaneous administration is used to produce the edema of the head of the rabbit just mentioned. That para-phenylene-diamine resembles aniline in being absorbed through the intact skin is indicated by reports of systemic effects, as well as dermatitis, from the wearing of furs dyed with it.

Dr. Alexander: Dr. Smith, how does this poison affect man clinically?

Dr. Ralph Smith: When para-phenylene-diamine is used in a hair dye, it is thought to be absorbed through the roots of the hair. Ordinarily only one to two persons out of from 100 to 150 become susceptible to or exhibit any marked sensitivity to para-phenylene-diamine. The chronic symptoms are most frequently seen in those patients working in the fur dyeing industry, where the use of para-phenylene-diamine is extensive. They usually complain of a mild dizziness, nausea, weakness, syncope and mild cyanosis. Retrobulbar neuritis and scotoma for red and green colors have been reported. Other neurologic manifestations, such as peripheral neuritides have also been observed. Exfoliative dermatitis and a simple dermatitis involving the scalp or the face are not unusual. The number of cases reported of acute manifestations involving the liver, giving rise to the picture of subacute or acute yellow atrophy, is relatively low.

Dr. Alexander: Did the eruption in this patient appear exfoliative?

Dr. Smith: Yes.

Dr. Alexander: Did all reported instances of systemic poisoning with a large liver and spleen develop acute yellow atrophy?

Dr. Smith: No, they do not all develop yellow atrophy nor is the fever usually so high.

Dr. Alexander: I think the statement is made that the patients may be hypothermic. The sudden onset of high fever, as in this case, is unusual. However, at the time this patient was in Isolation Hospital a right rectus paralysis was noted which is in keeping with poisoning from this particular substance. The large liver is quite common. The skin eruption, the neurologic symptoms and the presence of the drug all fit into the clinical picture of poisoning from para-phenylene-diamine. The drowsiness, weakness and coma in the beginning may have been due to the hyperthermia. From what has been discussed, Dr. Smith, do you think this is a case of poisoning from para-phenylene-diamine?

Dr. Smith: It is possible.

Dr. Harford: The literature on this subject describes three cases of systemic poisoning from para-phenylene-diamine. All three of these cases, including one which had lesions in the central nervous system, had damage to the liver. However, there was no renal damage and the outstanding feature in the case today is the renal damage.

Dr. Alexander: That is all quite true. It is also interesting that patients with systemic changes usually have an enlarged spleen, but the spleen in this patient was not palpable. The third factor in this case is the possibility of sulfonamide intoxication. It is known that one of the sulfonamide drugs was administered, but nothing is known about what type it was. At the time of admission to Isolation Hospital, this woman was given 5 gms. of sodium sulfadiazine intravenously on the suspicion that she had an infection. This was administered when she had a temperature of 107 F. Because of this added 5 gms. it is quite possible that the patient had too much of the drug. Dr. Wood, what manifestations in this case would be in keeping with hypersensitivity to sulfonamide drugs?

Dr. W. Barry Wood: Everything in this case could be related to that condition with the exception of the paralysis of the lateral rectus muscle.

Dr. Alexander: At the Isolation Hospital, this patient had a 4 plus albumin, red cells and crystals in the urine, whereas, on admission to this hospital the albumin was 1 plus and there were only a few red cells. Is it possible to have severe damage to the kidneys with little, if any, change in the urine?

Dr. Wood: Yes, that is quite possible. So-called sulfonamide nephrosis reacts in that way.

Dr. Alexander: Will you please explain sulfonamide nephrosis more fully? Is this a common lesion of sulfonamide intoxication?

Dr. Wood: There are two alterations in which the kidneys are involved. One is a general ob-

struction of the tubules and ureters. The other is a parenchymal lesion that involves the ephithelium of the kidney tubules and is not associated with deposit of crystals. I think that, in this case, the second is the more likely.

DR. ALEXANDER: Do you think this patient had periarteritis nodosa?

DR. WOOD: That is quite possible.

DR. ALEXANDER: It is interesting that the blood pressure was not elevated. If this patient had uremia, would you expect the blood pressure to be elevated?

DR. WOOD: I would not expect it to be elevated with sulfonamide nephrosis.

DR. ALEXANDER: Are the CO_2 combining power of 45 and the low chlorides also in keeping with nephrosis?

DR. WOOD: The low CO_2 is due to the azotemia—the retention of organic and inorganic acids. The chloride level is more difficult to explain but low chloride is seen rather frequently in sulfonamide nephrosis. Dr. Leutscher of Baltimore has pointed out that sometimes when the patient recovers from azotemia, the chloride in the blood becomes greatly elevated.

DR. ALEXANDER: The concensus of opinion appears to be that a toxic reaction to sulfonamide drugs was the cause of death in this case, rather than hair dye poisoning.

ANATOMIC DIAGNOSIS*

Acute interstitial nonsuppurative nephritis of a distinctive type.
Acute interstitial myocarditis.
Acute interstitial pancreatitis.
Focal granulomas and necrosis in the spleen and lymph nodes.
Hyperplasia of the eosinophilic cells of the bone marrow.
Focal cellular infiltration of lymphocytes, plasma cells and eosinophilic leukocytes in the adrenal capsule, the lung and about the hair follicles of the skin.

PATHOLOGIC DISCUSSION

DR. ROBERT MOORE: The most obvious gross pathologic change was in the kidneys. They were enlarged greatly, soft and flabby. Throughout both the cortex and medulla there were numerous petechiae and ecchymoses. The other organs showed no distinctive gross alteration.

In the kidney there were distinctive changes. Throughout the cortex, but more especially near the corticomedullary junction, and about the glomeruli there is an advanced infiltration with mononuclear cells, plasma cells, lymphocytes and a few eosinophilic leukocytes. In several foci the

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

MILWAUKEE SANITARIUM
WAUWATOSA, WISCONSIN
FOR NERVOUS DISORDERS
(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)
Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.
JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
MERLE Q. HOWARD, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.
ARTHUR J. PATEK, M.D.
G. H. SCHROEDER,
Business Manager
COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*





"WELL, DOCTOR, I'D PUT THIS BABY ON DRYCO"

"His condition requires careful dietary supervision—with Dryco you can easily adjust the formula to meet his requirements."

Because Dryco offers the physician wide limits of formula flexibility, it is ideally suited to *special* feeding . . . besides being perfectly suited to *normal* cases. It may be prescribed with or without added carbohydrate . . . and may be employed in *concentrated* form also when indicated.

The high-protein, low-fat ratio of Dryco (2.7 to 1) assures optimum protein intake and minimal gastro-intestinal upsets from fat indigestion. In addition, Dryco contains adequate vitamins A, B_1, B_2, and D, plus essential milk minerals.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE, NEW YORK 17, N. Y.

In Canada Write The Borden Company, Limited, Spadina Crescent, Toronto

DRYCO *is made from spray-dried, pasteurized, superior quality whole milk and skim milk. Provides 2500 U.S.P. units vitamin A and 400 U.S.P. units vitamin D per reconstituted quart. Supplies 31½ calories per tablespoon. Available at all drug stores in 1 and 2½ lb. cans.*

USE
DRYCO
THE "CUSTOM FORMULA"
INFANT FOOD



ACCEPTED
AMERICAN MEDICAL ASSN.
Council on Foods and Nutrition

infiltration is about small capillaries and arterioles, the walls of which show necrosis. In a few tubular lumina there are polymorphonuclear leukocytes. There is no essential change in the glomeruli.

Throughout other organs, notably the heart and pancreas, there is a similar inflammation with involvement of small blood vessels.

The lymph nodes show a different type of inflammation in which there are small granulomas, composed of epitheloid cells and occasional giant cells. Similar granulomas are observed in the spleen.

The skin shows infiltration with mononuclear cells and eosinophilic leukocytes about the hair follicles, the sweat glands and other accessory dermal structures.

The liver is essentially normal. In summary, then, the anatomic changes in this patient are an acute interstitial inflammation in many viscera characterized by infiltration with eosiniphilic leukocytes and involvement of small blood vessels and focal granulomas in the spleen and lymph nodes. We have interpreted it as a type of reaction to one of the sulfonamide drugs. The changes are not consistent with our knowledge of the reaction to paraphenylene-diamine.

TUBERCULOSIS ABSTRACTS

A REVIEW FOR PHYSICIANS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 1. January, 1946.

For tuberculous meningitis there is still no adequate therapy. Therefore, before such a diagnosis is made, one must be sure to rule out all diseases for which medical or surgical treatment might be beneficial and in which the prognosis might be favorable.

TUBERCULOUS MENINGITIS—A CASE REPORT

Presentation

A 5-year-old boy was admitted to the hospital with headache, listlessness and fever. Three weeks before admission the patient became listless and ten days later developed a fever of 102 F., with nausea followed by frontal headache and persistent vomiting. There were no chills, convulsions or paralysis.

Physical examination upon admission revealed a thin, poorly developed child responding clearly to questions but lapsing into drowsy stupor when undisturbed. The skin was clear and of good color. The ears, throat and fundi were normal. Small cervical lymph nodes were palpable bilaterally. The neck was stiff and painful on flexion. The heart, lungs and abdomen were negative. The Kerwere active and equal. The temperature was 99.4 nig sign was doubtful. The deep tendon reflexes F., the pulse 100 and the respirations 24. The blood pressure was 100 systolic, 75 diastolic. Blood examination revealed a red cell count of 5,220,000 with 108 per cent hemoglobin. The white cell count ranged from 10,200 to 20,650 with 74 per cent neutrophils. The urine was essentially negative. A tuberculin test was negative in a dilution of 1:100. Blood cultures were negative.

A roentgenogram of the chest revealed a slightly hazy left lung field but no areas of consolidation. There was no enlargement of the hilar nodes.

A lumbar puncture revealed clear colorless fluid under a pressure equivalent to 250 mm. of water. The total white cell count was 95, with 70 per cent polymorphonuclears. The total protein was 150 mg. per 100 cc., the gold sol curve 0012333100, and the Wassermann test negative.

The temperature ranged between 100 and 102 F. Repeated lumbar punctures revealed pressures up to 550 mm., the fluid becoming opalescent and a cell count rising to 350. A sugar determination was 39 mg., and the chloride 567 mg. per 100 cc. Spinal fluid cultures were negative, as were smears for acid-fast bacilli. A throat culture revealed a type 22 pneumococcus.

Sulfathiazole therapy was begun on the sixth hospital day. Two days later a neurologic examination revealed a patient difficult to arouse and with dilated pupils, fixed to light. There was no papilledema. The gaze wandered but tended to be directed toward the right. There was a left hemiparesis, with increased tendon reflexes and an extensor plantar response on the paretic side. There was a positive Kernig sign. Death occurred on the tenth hospital day.

Differential Diagnosis

DR. ALLAN M. BUTLER: From the information, no definite diagnosis can be made. The sequence of respiratory infection, fatigue, listlessness, moderate fever, nausea, headache and persistent vomiting is consistent with the dissemination of a primary tuberculous focus and the development of tuberculous focus and the development of tuberculous meningitis, but does not exclude influenzal meningitis, brain abscess or encephalitis. The mental state of the child and the stiff neck are consistent with tuberculous meningitis. A positive tuberculin test in a child of five suggests continued exposure at home or the ingestion of unpasteurized milk. Resistance to tuberculosis is relatively good at five years of age and the incidence of tuberculous meningitis is markedly less at this age than at one, two or three years. Unfortunately, no information is given concerning the presence or absence of continued exposure.

The description of the roentgenogram of the chest is noncommittal. The films are not available for reexamination, but they were interpreted as essentially negative.

The spinal fluid sugar of 39 mg. per 100 cc. and the other relatively normal spinal fluid sugar levels

do not rule out tuberculous or other bacterial infection. Without the hyperglycemia incident to the parenteral glucose they might have been markedly diminished. Lack of information about the serum chloride concentration deprives the low spinal fluid chloride of diagnostic significance. The occurrence of 70 per cent polymorphonuclear cells is rare in tuberculous meningitis but not impossible.

The failure to identify organisms on smear is consistent with encephalitis, brain abscess or tuberculous meningitis. The influenza bacillus may also be missed. The failure to culture organisms is also nonspecific. If the meningitis were due to a type 22 pneumococcus, the spinal fluid would have been purulent and the organisms seen are recovered on culture.

Sulfathiazole was not administered until the sixth hospital day. Such therapy did not interfere with culture of the spinal fluid. It indicates the diagnosis of tuberculous meningitis was not clearly established. The progress of symptoms is not diagnostic. The repeated lumbar punctures may well explain the absence of papilledema. The possible diagnoses appear to be tuberculous meningitis, with or without miliary tuberculosis, influenzal memingitis, encephalitis and, finally, brain abscess.

I shall hazard the diagnosis of tuberculous meningitis, with or without miliary tuberculosis.

Clinical diagnosis: Meningits (? tuberculous).

Dr. Butler's dagnosis: Tuberculous meningitis. Miliary tuberculosis?

Anatomic diagnoses: Tuberculous meningitis. Miliary tuberculosis of lung, liver, spleen, kidneys and bone marrow.

Pathologic Discussion

Dr. Charles S. Kubik: Autopsy revealed tuberculous meningitis and miliary tuberculosis of the lungs, liver, spleen, kidneys and bone marrow. I should suppose that the listlessness and loss of appetite noted before entry were the symptoms of generalized miliary tuberculosis and that the onset of meningitis coincided with the headache and vomiting.

On examination of the brain a subarachnoid exudate was observed, more pronounced over the base of the brain and the brain stem than elsewhere. Numerous tubercles of the arachnoid and pia could be seen and were later confirmed by microscopic examination. The lateral and third ventricles were enlarged to about four times normal size. The ependyma was studded with tiny, barely visible tubercles that gave the ependymal surfaces a roughened appearance.

There was also a tubercle, 2 mm. in diameter, of the right cerebral peduncle, which may have accounted for the left hemiparesis. No other tubercles within the substance of the brain were found.

Case Records of the Massachusetts General Hospital, The New England Journal of Medicine, January 25, 1945.

HAYFEVER PLANTS

Their Appearance, Distribution, Time of Flowering, and Their Role in Hayfever, with Special Reference to North America. Rodger P. Wodehouse, Ph.D. 1945. Chronica Botanica Company, Waltham, Mass.

The greater part of the book is devoted to a description of all plants known to cause hayfever, as well as of those suspected of doing so. Original drawings of the more important plants and pollen aid in visualizing the text. The remainder of the book presents the anatomy of plants; the methods by which pollen can be obtained from the atmosphere and the methods of its identification; the botanical literature and the pertinent medical literature for the various regions of the United States; and, finally, pollen surveys.

For the purpose of these surveys the United States is divided into nine regions; for each region there is a detailed description of the hayfever seasons and their causative pollen with an easily interpreted table recording the flowering periods of the plants of primary and secondary importance in the causation of pollenosis.

In the preface, the author states that it is intended to interpret the botanical facts of hayfever in terms of their clinical significance. This has been accomplished in a concise and intelligible manner. It is an excellent reference text. Its practical value would be enhanced if it contained photomicrographs of stained and unstained, expanded and unexpanded pollen, as they appear on pollen slides.

C. H. Eyermann, M.D.

BOOK REVIEW

Operations of General Surgery. By Thomas G. Orr, M.D., Professor of Surgery, University of Kansas School of Medicine, Kansas City, Kansas. With 1396 Step-by-Step Illustrations on 570 Figures. Philadelphia: W. B. Saunders Company. 1944.

The 1936 illustrations coupled with a brief and clear word description of the operative procedure make this work an indispensable treatise on surgery for either the student or the general surgeon. It complies with the latest methods of teaching, that of visualization of the subject, which is more powerful than word description.

One may obtain a greater scope of the value of this work, knowing that this is one of the few books in surgery selected by some of the chiefs of the surgical services in our Armed Forces.

Works on surgery must be of the highest value and occupy little space in order to be permitted in the hospitals in more advanced positions of our Armies now fighting in the field.

"Operations of General Surgery" by Dr. Orr was one of the books selected by the First Medical Unit that landed in France.

J. W. G.

TROPICAL DISEASES FOUND IN U. S.

A number of diseases, formerly believed prevalent only in the tropics, have been found in the United States, according to an editorial in the December 8 issue of *The Journal of the American Medical Association.*



PENICILLIN in CELLULITIS

Serious local infections such as cellulitis due to hemolytic streptococcic infections—with or without bacteremia—respond rapidly and dramatically to Penicillin.

Initial dosage of 15,000 to 20,000 units is advised. Constant intravenous injection of an isotonic sodium chloride solution follows, allowing administration of 5,000 to 10,000 units every hour, or 120,000 to 240,000 units in a twenty-four hour period. If this method is found inadvisable, 20,000 to 40,000 units may be injected intramuscularly every three or four hours.*

Bristol Penicillin, because of its low toxicity and freedom from pyrogens, its absolute sterility and standard potency, provides dependable therapeutic action.

For additional current literature on the clinical uses of this potent antibiotic, refer to your issues of the BRISTOL PENICILLIN DIGEST.

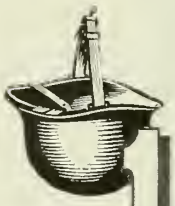
*Keefer C. S. et al.: New Dosage Forms of Penicillin, J.A.M.A. 128: 1161 (Aug. 18) 1945.

BRISTOL
LABORATORIES
INCORPORATED

Other products of Bristol Laboratories include high-type parenterol medications such as Epinephrine Hydrochloride, Liver Injection, Estrogenic Substonce in Oil, ond Phenobarbitol Sodium.

SYRACUSE 1, NEW YORK

Formerly Cheplin Laboratories Inc.



1946

ARMOR AND ARMAMENTARIUM

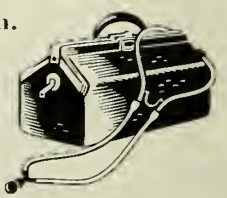
Guns are silent and grass grows in the foxholes, but there can be no peace treaty in the endless war on mankind's immortal enemy—Disease. Home comes the physician from his lifesaving on the battlefields of man-made death abroad to march again beside his colleagues who have so valiantly held the casemates of health at home.

Battle front and home front, boulevard and dirt road, the mighty facilities of the medical center and the challenge of practice in the lonely farmhouse—all are the front line trenches in humanity's continuing crusade to tame cannibal protoplasm. There is no discharge in that war.

The first cry of pain in the world was the first call for a physician. It has been answered as it echoed down the centuries; it will be answered in the unrolling years of the future.

As this questioning year of 1946 opens with the world convalescing from malignant political disease, we would like to claim the privilege of welcoming the thousands of physicians returning from unparalleled service on war fronts—of saluting those who shouldered such heavy burdens at home—of expressing the confidence that the traditional unity of the profession armed with new and potent weapons will drive the front lines of the war on disease ever forward.

We know that we are joined in this expression by all organizations which seek to play their roles, large and humble, as institutions of supply to those "bound by the covenant and oath, according to the law of medicine." S. H. Camp and Company, Jackson, Mich.



THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

JANUARY, 1946

EDITORIALS

RESERVATIONS FOR ANNUAL SESSION

Because of the heavy demand upon hotel accommodations in St. Louis, which is expected to become worse nearer the time of the Annual Session, March 24, 25 and 26, the Convention Bureau has established a Housing Bureau for the session and all reservations will have to be cleared through this bureau. An excellent and well attended meeting is expected and members are advised to make reservations for the session early. A blank for convenience in making reservations is on page 4 of this issue of THE JOURNAL.

AMERICAN MEDICAL ASSOCIATION

Giving information concerning the recent session of the House of Delegates of the American Medical Association, *the Journal of the American Medical Association* carried the following editorial in the December 15 issue:

The end of the war made possible a session of the House of Delegates of the American Medical Association in Chicago during the period from December 3 through December 5. Practically a full attendance assembled, with delegates from all the constituent bodies and from the scientific sections and with representatives of the councils and other official bodies of the Association.

The Board of Trustees referred to the House of Delegates the address of President Harry S. Truman and the Wagner-Murray-Dingell bill, which were recently discussed in *The Journal.* Among the most significant of all the actions taken by the House of Delegates was the adoption of the report of the Reference Committee on Legislation and Public Relations, under the chairmanship of Dr. Edwin S. Hamilton of Illinois, which defines the policy of the American Medical Association on these proposals. As might be expected, the House of Delegates expressed its opposition to federal compulsory sickness insurance as proposed by the Wagner-Murray-Dingell bill and also to the extraordinary proposals made by Senator Pepper in his bill for maternal and infant care.

Among the many problems considered by the House of Delegates, those of first importance related to the physicians still in military service and those now being discharged. By direction of the House of Delegates a new Committee on Military Service has been established which is to give careful consideration to all the communications that have been received from men in the service in order that the difficulties that have prevailed in this war may be overcome in any future emergency. The Committee on Postwar Medical Service is being charged with many of the problems of the returning medical veteran; the House of Delegates requested the Board of Trustees to develop the Bureau of Information on a permanent basis to intensify the activities now under way for aiding the returning veteran in securing internship or residency or graduate education and also with information as to suitable locations, licensure and similar matters that are to him of intimate concern.

Much of the time of the House of Delegates was occupied, particularly in the executive session, with the internal operations of the Association: the authority and functions of the Board of Trustees, of the Council on Medical Service and Public Relations and the work of various officers and bureaus in the headquarters office. By definite action the House of Delegates clarified these responsibilities.

Many resolutions were introduced in the House of Delegates relative to economic, social and scientific questions, all of which were referred to the appropriate reference committees and on all of which there were decisions. Especially significant were the action establishing a Section on General Practice as a permanent member of the scientific sections and the recommendation for a new by-law which will provide for two meetings of the House of Delegates each year, thus enabling the representative body of the Association to express promptly the policies of American medicine on most of the large problems that affect the medical profession.

The opening meeting for 1945 was marked by the inauguration of the new president, Dr. Roger I. Lees of Boston, whose address entitled "What Is Adequate Medical Care?" was published as the leading article in *The Journal* last week. An unusual feature of this meeting was the presentation to Brigadier General Fred W. Rankin of the Distinguished Service Medal with a citation recognizing his military service. In making this presentation Dr. Roger I. Lee called attention to the pardonable pride which the Association takes in the fact that more than 60,000 physicians served in the armed forces. In introducing Brigadier General Noyes, who conferred the decoration, Dr. Lee said:

> Since the outbreak of World War II, 227 have been reported killed in action and 409 died in military service. Moreover, up to the first of December 1945 physicians have been distinguished by recognition with citations and medals in great numbers for a variety of distinguished services, which varied from organizations that have saved the lives of thousands to individual discoveries which have achieved worldwide recognition. The Bronze Star was conferred on 297 physicians for

exceptional conduct, including bravery equal to that of the most courageous of fighters under the most hazardous of conditions. Physicians have at the peril of their own lives entered the hold of vessels burning and sinking at sea to care for the wounded and to bring them out. Physicians have gone into the midst of exploding shells to administer first aid and blood tranfusions to the wounded. The Silver Star has been given to 100 physicians, the Legion of Merit to 145 physicians, the Soldiers Medal to 46 physicians, the United States of America Typhus Medal to 34 physicians, the Medal of Honor to 3, the Navy and Marine Corps Medal to 17, the Navy Cross to 14. Among the miscellaneous citations have been the awarding of the Croix de Guerre, the Cross of the Knight Commander, the Italian Cross for War Merit, the Medal of Distinction, and other foreign decorations. And finally, the Distinguished Service Medal has been awarded to Col. James O. Gillespie, Major Gen. James C. Magee, Brig. Gen. Leon A. Fox, Brig. Gen. Percy J. Carroll, Major Gen. Norman T. Kirk, Major Gen. George C. Dunham, Brig. Gen. Joseph I. Martin, Brig. Gen. John A. Rogers, Capt. George B. Dowling, Brig. Gen. Malcolm C. Grow, Major Gen. Morrison C. Stayer, Rear Admiral William Chambers, Major Gen. Warren F. Draper, Major Gen. George F. Lull, Comdr. James J. Sapero and Capt. Emile G. Schuster.

The list of the members of the medical profession who have been decorated at war is at present far from complete. No doubt many others will yet receive decorations for remarkable accomplishments. Perhaps some of the names of those who have been recognized have been missed. Symbolic of all of these decorations, therefore, is the award made to Brigadier General Fred Rankin, a former President of the American Medical Association.

The election of officers brought to the Association as President-Elect Dr. Harrison H. Shoulders, Nashville, Tenn., for many years Speaker of the House of Delegates; as Vice President Dr. William R. Molony, Los Angeles, long a member of the House of Delegates from California; for the Board of Trustees three new members, Dr. John H. Fitzgibbon of Portland, Ore., Dr. James R. Miller of Hartford, Conn., and Dr. Dwight H. Murray of Napa, Calif. Dr. Olin West, for many years Secretary of the Association, was reelected unanimously, as was also Dr. Josiah J. Moore, the treasurer. Dr. Herman G. Weiskotten of Syracuse, N. Y., was reelected to the Council on Medical Education and Hospitals; Dr. Henry R. Viets, Boston, to the Council on Scientific Assembly, and Dr. Louis A. Buie, Rochester, Minn., to the Judicial Council. To the Council on Medical Service and Public Relations were elected Dr. Alfred W. Adson, Rochester, Minn., Dr. Walter B. Martin, Norfolk, Va., and Dr. Raymond L. Zech, Seattle.

The next annual session of the Association will be held in San Francisco, July 1-5, 1946. Plans were developed for the celebration of the centennial of the Association, which will be held in Atlantic City in 1947.

NEWS NOTES

Dr. C. T. Herbert, Cape Girardeau, was elected president of the Southeast Missouri Medical Association at its 69th annual meeting held at Capt Girardeau on November 5. Other officers elected were Dr. Frank W. Hall, Cape Girardeau, vice president; Dr. S. E. Mitchell, Malden, treasurer; Dr. Albert Estes, Jackson, recording secretary; Dr. M. H. Shelby, Cape Girardeau, corresponding secretary.

Dr. Ben Brasher, Lexington, spoke before a parent-teacher association in Lexington on November 14 and told of the condition of child health among Arab children which he had witnessed while in service. Dr. Brasher spoke at a Lions Club luncheon meeting on November 13.

In honor of the memory of Dr. John L. Benage, the Iberia Junior College has created a loan fund for the assistance of young men and women to become physicians and nurses.

Dr. William J. Stewart, Columbia, spoke before the Kiwanis Club of Columbia on November 13 and told of the state crippled children's service.

Dr. Robert M. Myers, Kansas City, who recently returned from service, was the speaker at a dinner meeting of the Kansas City Business and Professional Women's Club on November 12.

Dr. A. E. Monroe, Sedalia, has been appointed county physician of Pettis County.

Dr. Vincent T. Williams, Kansas City, spoke at a meeting of the Pharmaceutical Representatives' Association of Kansas City on November 2. He spoke in opposition to the Wagner-Murray-Dingell bills.

Col. James Barrett Brown, St. Louis, formerly 3rd Service Command, Valley Forge General Hospital, Phoenixville, Pennsylvania, has been assigned to the Surgical Consultants Division, General Surgery Branch, of the Office of the Surgeon General.

Dr. Wendell G. Scott, St. Louis, has been promoted to the rank of Captain, USNR. He is located at the U. S. Naval Hospital, Seattle, Washington.

The Chicago Medical Society Annual Clinical Conference will be held at the Palmer House, Chicago, March 5, 6, 7 and 8, 1946.

The 21st General Hospital, U. S. Naval Unit 76 and other faculty members in military service were honored by Washington University and affiliated hospitals at a banquet at the Jefferson Hotel, St. Louis, on December 11. Scientific sessions and a tea at the nurses residence took place earlier in the day.

Dr. H. L. Mantz, Kansas City, was elected second vice president of the Southern Chapter of the American College of Chest Physicians at a meeting held at Cincinnati on November 12.



You'd think he was 70

With his "fussy" appetite, intestinal upsets and restless sleep, you'd think he was 70 years instead of 7 weeks old. A change to 'Dexin' brand High Dextrin Carbohydrate formulas often helps restore a normal, healthy appetite, and sound, undisturbed sleep. The high dextrin content of 'Dexin' (1) diminishes intestinal fermentation and the tendency to colic and diarrhea, and (2) promotes the formation of soft, flocculent, easily digested curds.

'Dexin' provides formulas that are well taken and retained. Palatable and not too sweet, 'Dexin' is soluble in hot or cold milk or other bland foods. 'Dexin' does make a difference.

'Dexin' Reg. Trademark

'Dexin'

HIGH DEXTRIN CARBOHYDRATE

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.



IN THE SHORTENING OF *Convalescence*

More than so-termed tonics and restoratives, Ovaltine can be of material aid in shortening the period required for the return of strength and vigor following recovery from infectious or prolonged illnesses. During the acute stages of febrile diseases, when the patient's nutritional intake is low, while requirements are higher than normal, many metabolic deficits are developed. These can be made good only by a high intake of essential nutrients during the recovery period, for only after these nutritional deficits are wiped out can former strength and well-being return.

Ovaltine offers many advantages as a nutritional supplement to the diet of convalescence. This delicious food drink is rich in needed minerals, vitamins, and biologically adequate proteins. Its appealing taste invites consumption of three or more glassfuls daily. Its notably low curd tension encourages rapid gastric emptying, an important factor in maintaining good appetite.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



Ovaltine

Three daily servings of Ovaltine, each made of ½ oz. Ovaltine and 8 oz. of whole milk,* provide:

PROTEIN	31.2 Gm.	VITAMIN A	2953 I.U.
CARBOHYDRATE	62.43 Gm.	VITAMIN D	480 I.U.
FAT	29.34 Gm.	THIAMINE	1.296 mg.
CALCIUM	1.104 Gm.	RIBOFLAVIN	1.278 mg.
PHOSPHORUS	.903 Gm.	NIACIN	7.0 mg.
IRON	11.94 mg.	COPPER	.5 mg.

*Based on average reported values for milk.

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Broyles, Watkins A., M.D., Bethany.
Camp, George H., M.D., Springfield.
Cooper, Maurice E., M.D., Columbia.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Ellis, Coburn H., M.D., Sweet Springs.
Elkins, Ronald F., M.D., Springfield.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.
Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D.. Springfield.
Johnston, Andrew D., M.D., Waynesville.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kitchen, William M., M.D., Moberly.
Leech, Charles A., M.D., Columbia.
McKinstry, Karl V., M.D., DeSoto.
McPheeters, J. W., M.D., Poplar Bluff.
Mullinax, Orr., M.D., St. Joseph.
O'Brien, James A., M.D., Joplin.
Post, Winfred L., M.D., Joplin.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Robichaux, E. B., M.D., Excelsior Springs.
Scorse, S. W., M.D., Webb City.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Wepprich, Michael S., M.D., St. Charles.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Baer, Alvin J., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.
Caldwell, John K., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Growdon, John A., M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M. D., Kansas City.
Johnston, Paul N., M.D., Kansas Ctiy.
Klein, Edward H., M.D., Kansas City.
Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.
Myers, Robert M., M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.
Stockwell, Arthur L., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Barger, John A., M.D., Florissant.

JUL 28 1947 MEDICAL LIBRARY

Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Boedeker, Roy V., M.D., St. Louis.
Bressler, Bernard, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.
Fletcher, Paul F., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Hall, Lee A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
Macnish, James M., M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.
Patton, John F., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Post, Cyril A., M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for January and February, which all members are invited to attend, follows:

January 2: Miscellaneous.
January 4: Gynecological and Genito-urinary.
January 9: Skin.
January 11: Breast.
January 16: Gastrointestinal.
January 18: Cervix.
January 23: Skin.
January 25: Head and Neck.
January 30: Bone and Lymphomas.
February 1: Gynecological and Genito-urinary.
February 6: Miscellaneous.
February 8: Breast.
February 13: Skin.
February 15: Cervix.
February 20: Gastrointestinal.
February 22: Head and Neck.
February 27: Skin.

EMIC

The following principal changes from the former EMIC plan have been announced by the State Board of Health:

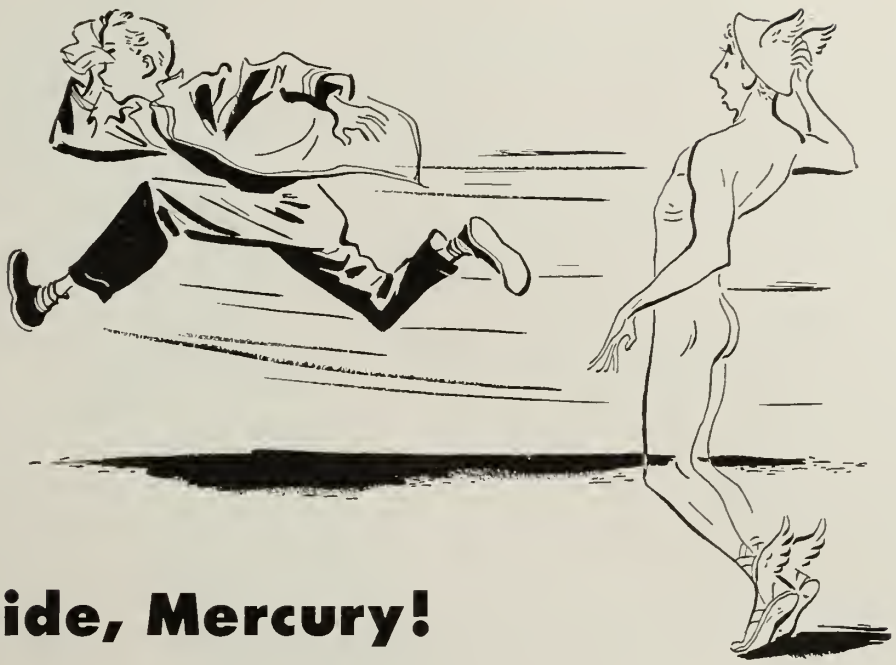
1. A woman is eligible for EMIC care, if anytime since January 1, 1945, she was pregnant while her husband was in the proper pay grade. That is, for example, if she became pregnant in February 1945, and her husband was discharged in March, she is eligible. The same applies for eligibility of infant care. If, since January 1, anytime during the infant's prenatal period its father was in the proper pay grade, it is eligible for one year's care.

2. The number of prenatal visits required for "complete care" was lowered from seven to five.

3. All drugs furnished by the physician can be paid for if the physicians will list the drugs used and the cost to him. This should be listed on the medical record.

4. $5.00 is paid for a circumcision, after the child is two weeks old. (Routine circumcisions are not paid for.)

5. $10.00 is paid for each application of radium.



One side, Mercury!

Patients want quick relief from the pain of impacted or superficially placed foreign particles in the eye. How fast can you act? Much depends upon the anesthetic you employ. Ophthalmologists using Butyn Sulfate 2% Solution in the eye find anesthesia so rapid that simple operations may be started *within one minute.* This rapid action of Butyn Sulfate saves you time in the induction of local anesthesia, and its anesthetic effectiveness saves time by securing the acquiescence and cooperation of the patient.

● Compared to cocaine, the anesthesia produced by Butyn Sulfate is *more rapid, more profound, more efficient* and *less toxic in the quantity required.* It does not soften the corneal epithelium, seldom dilates the pupil, does not affect vessels, accommodation or ocular tension, and does not dry the conjunctiva. ● If you do not have Butyn Sulfate 2% Solution on hand for routine and possible emergency use, why not call your pharmacist for a 1-fluidounce dropper bottle—now? No Federal Narcotic Blank is required.

ABBOTT LABORATORIES, NORTH CHICAGO, ILLINOIS.

BUTYN SULFATE
REG. U. S. PAT. OFF.
2% Solution

(p-aminobenzoyl-di-butyl-amino-proponal sulfate, Abbott)

DEATHS

Poe, Chester A., M.D., St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1914; honor member of the St. Louis County Medical Society; Fellow of the American Medical Association; aged 58; died August 3.

Kenney, William Leroy, M.D., St. Joseph, a graduate of State University of Iowa College of Medicina, 1897; honor member and former president of the Buchanan County Medical Society; aged 73; died August 11.

Vincent, Cranston Gordon, M.D., Kansas City, a graduate of the University of Kansas School of Medicine, 1926; member of Jackson County Medical Society; Fellow of the American Medical Association; aged 47; died August 23.

Seibel, Marshall G., M.D., St. Louis, a graduate of University of Louisville School of Medicine, 1929; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 42; died September 25.

Oliver, Everett A., M.D., Richland, a graduate of St. Louis University School of Medicine, 1902; member and former secretary of the Pulaski County Medical Society; Fellow of the American Medical Association; aged 72; died October 5.

Bagby, Roland O., M.D., Kansas City, a graduate of Kansas City College of Medicine and Surgery, 1920; member of the Jackson County Medical Society; aged 58; died October 10.

Short, Ulysses S., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1903; member and former president of St. Louis County Medical Society; Fellow of the American Medical Association; aged 67; died October 18.

Burroughs, William H., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1923; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 55; died October 19.

Youngman, Adam G., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1912; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 65; died October 20.

Robertson, James A., M.D., Springfield, a graduate of Missouri Medical College, St. Louis, 1898; member of Greene County Medical Society; aged 70; died October 20.

Finney, William B., M.D., Kennett, a graduate of St. Louis College of Physicians and Surgeons, 1890; honor member of Dunklin County Medical Society; aged 87; died October 27.

Altham, Arthur G., M.D., Sheldon, a graduate of University Medical College of Kansas City, 1905; honor member and former president of Vernon County Medical Society; aged 66; died October 30.

Miller, Robert M., M.D., Belton, a graduate of St. Louis University School of Medicine, 1905; former president of Cass County Medical Society; Fellow of the American Medical Association; aged 66; died November 9.

McComb, James A., M.D., Lebanon, a graduate of Beaumont Hospital Medical College, St. Louis, 1887; honor member and former president of Laclede County Medical Society; aged 82; died November 15.

McCormick, Gilbert C., M.D., Kansas City, a graduate of Illinois Medical College, Chicago, 1909; member of Jackson County Medical Society; Fellow of the American Medical Association; aged 71; died November 22.

Stookey, Paul F., M.D., Kansas City, a graduate of Chicago College of Medicine and Surgery, 1913; member of Jackson County Medical Society; Fellow of the American Medical Association; aged 57; died November 25.

Johnson, Archie N., M.D., Kansas City, a graduate of University Medical College of Kansas City, 1903; honor member of Jackson County Medical Society; aged 78; died December 6.

PLANS FOR COOPERATION BETWEEN TEACHING INSTITUTIONS AND VETERANS' HOSPITALS

Introduction

NOTE.—Following are the details of the plans of cooperation between teaching institutions and veterans' hospitals and also for the use of civilian practitioners in the care of the veteran. The description includes the appointments to be given to civilian physicians and the terms of their employment. There follow also letters that have been sent to the deans of medical colleges, who will be asked to cooperate fully in the development of the plan.—ED.

This is a statement of General Hawley's plan for the immediate future for the staffing of veterans' hospitals and for cooperation with teaching institutions. There will probably have to be some variations made in the plan for individual hospitals according to the necessities, but the plan should work if:

1. Those in charge of administration of hospitals want it to work;

2. There is cooperation between hospitals, medical schools and consultants appointed by the Surgeon General of the Veterans Administration.

The object of these changes is to give better care to individual patients by bringing into the veterans' hospitals the best trained men obtainable in civilian practice of medicine. This can be done so far as consultants are concerned by putting consultants on a basis which will allow them to devote part of their time to veterans' hospitals and part to their own private practice and teaching.

It is realized by the Surgeon General that it was the complete cooperation of the civilian doctor, fitted into his proper sphere of interest and ability in the Army, that made the service to the G. I. outstanding in the field of military medicine and surgery. It is planned that this same type of service will be continued in the Veterans Administration, the only difference being that neither the doctor nor the patient will be in uniform.

The Plan

There will be three classes of service.

Senior Consultants (senior consultants—present consultants).—This staff in most hospitals near teaching centers already exists and is functioning. There will be no change unless recommended by the local consultants to the Surgeon General and the manager of the hospital. However, senior consultants must be fitted into the general plan. If at present there are senior consultants that cannot be fitted into this plan except with difficulty, the present incumbents must be replaced.

Consultants (consultants—new consultants).—These men, who are essentially attending men but who under existing laws must be designated as consultants because there is at present no provision for attending men, are to be appointed by agreement of the local consultants appointed by the Surgeon General and the manager of the hospital. These men will be appointed immediately on recommendations of the local "deans' committee." They will be selected from the staffs of medical schools or recommended by local consultants and will be drawn at present from the ranks of discharged medical officers wherever possible; they will be men who have been certified by their respective boards; they will act as attending men act in civilian hospitals.

Consultants will be paid on a per visit basis, no two visits to be charged for on the same day, and their compensation will not exceed $6,000 per year, on an average monthly basis of $500. Their duties will be those expected of an attending physician in any university hospital. They will be assigned to their individual wards and will be responsible to the chief of service, clinical director or manager as may seem best in the administration of the individual hospital.

Ward Officers (ward officers—residents).—Under ex-



White's COD LIVER OIL CONCENTRATE

WHOLLY NATURAL SOURCE

LOW COST PER DAY

WELL TOLERATED

These are advantages which, for many years, have fixed White's Cod Liver Oil Concentrate in the minds of physicians everywhere as their first thought in prescribing.

TO THESE ADVANTAGES ADD *economy*

Cost to the patient has *not* increased. Average "infant antirachitic" prophylactic dosage costs *still* less than a penny a day.

Three palatable, convenient dosage forms — LIQUID (for drop dosage to infants), TABLETS AND CAPSULES.

Ethically promoted — not advertised to the laity.

WHITE'S COD LIVER OIL CONCENTRATE

PHARMACEUTICAL MANUFACTURERS

White LABORATORIES, INC NEWARK 2, N. J.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

isting laws there is no provision for residents. Such men now must come in under civil service and meet necessary physical qualifications. Arrangements have been made for immediate appointment of applicants by local managers on the recommendation of approved local "deans' committees" after completion of necessary form 57. Such men may go to work immediately.

These men will be essentially residents and will be put on a rotating service in their respective specialties with the idea that they will have opportunity to prepare for their boards under consultants and senior consultants. Teaching institutions with which the veterans' hospitals are cooperating will be responsible for furnishing instruction in the basic sciences prescribed by various boards.

At present ward officers will be paid under civil service, starting at $3,640 a year, not including room and board. When the law is changed these men will be on a different financial basis, probably with lower pay but with room and board. Any acceptable ward officer at present on the service of a veterans' hospital associated with a teaching institution, who has given satisfactory service, may be placed in line for continuing training for his chosen board. Ward officers wishing to fit themselves for board examination should apply to their managers and consultants to the Surgeon General and shall be put in line for such training only on their recommendation.

Ward officers will be selected first from the ranks of discharged junior medical officers who wish to prepare for their boards in various specialties. Their services will be rotating services through all the subspecialties of medicine and surgery, including orthopedic surgery. After their first complete rotation they should be allowed whenever possible to specify their preference as to the subspecialty. These services can run as long as five years in veterans' hospitals. One year of this will be in basic sciences, part of which can be given within the veterans' hospital. Such branches as pathology frequently can be given entirely within the institution; physiology, anatomy, biochemistry and others will have to be given by medical schools associated with veterans' hospitals.

It is suggested that the receiving service be continuous with the ward service and that each specialty should be represented on the receiving service rather than having the latter completely separated from ward service as is done in some institutions. This will make for continuity of diagnosis and treatment.

Local medical authorities will be responsible for offering courses to men preparing for boards. In most cases these can be paid for under the G. I. Bill of Rights. For the next year these courses will have to be held in abeyance because of lack of ward officers and the inability of some schools to provide this instruction immediately. When the attending staff is appointed and the schools can show the Council on Medical Education and Hospitals that they are prepared to give courses in the basic sciences, the boards will be requested to give their approval of the institution as a postgraduate institution for teaching. I have already been assured by the boards of surgery and medicine that their full cooperation will be forthcoming.

Permanent Staff.—Where there already exists a chief of service who is competent, who has been giving good service and who is a member of a board, of the College of Physicians or of the College of Surgeons, it would seem best not to interfere with his status, at least at this time, if he is a man of ability and vision and approves of the development of the proposed plan. It is suggested that he choose one of his ward officers to act as his adjutant to help coordinate the various services being handled by the consultants, to assist them at various times as the chief of service may see fit. This will enable the adjutant to prepare for his board in his specialty. If, however, the professional qualifications of a chief of service so warrant, he may be promoted to a hospital not immediately connected with a teaching institution to raise its standards.

If this plan does not seem satisfactory because of incompatibility of some sort, and a senior consultant or a consultant can be found who will devote enough time to the service to coordinate it and run it more satisfactorily, it would be up to the local administration to work out the plan.

Modus Operandi for Appointing Incoming Staff of Various Grades at Veterans Administration Hospitals

Senior Consultants.—Senior consultants should be recommended by the "dean's committee" of the medical school affiliated with the veterans' hospital. This group of consultants now exists in most veterans' hospitals near medical centers. They will be appointed from outstanding men of professorial rank and will act as supervisory consultants to the manager, chiefs of staff and the staff of the hospital and will guide the teaching as well as the clinical service in the hospital. Their compensation will be fixed, as now, on the basis of the amount of time spent and the kind of work performed during that time.

Consultants.—These men are essentially attending men and will be selected from discharged medical officers who have held teachng positions in medical schools prior to military service. They should be Fellows of the American College of Surgeons or the American College of Physicians or specialists certified by one of the specialty boards. If they have not passed the second half of the board examination because their military service prevented this, they may be recommended by the "dean's committee" because of their past record; it is permissible to use them as consultants, since they will be coming up for the second half of the board examination within the next six months or a year.

The method of appointment is as follows: They shall be recommended to the manager of the hospital for a particular service, medical, surgical or other specialty. There shall be included with the recommendation a full record of their training and accomplishments, positions held, research work, publications and army service record. Chief medical officers should transmit recommendations to the Surgeon General of the Veterans Administration for attention of Director of Medical Personnel. Recommendations should be sent by air mail, and we have assurance that appointments will be made promptly and returned to the manager promptly so that these men may be put in service immediately.

Ward Officers.—These men are to be selected at present from the ranks of discharged medical officers whenever possible by application to the "dean's committee" with their application. The "dean's committee" shall classify these men A, B or C according to ability and attainments. After survey the local "dean's committee" will recommend to the managers for immediate appointment sufficient personnel to fill all services necessary for the proper care of patients and teaching desired in future veterans' hospitals. The manager in consultation with the "dean's committee" shall select for recommendation to the Surgeon General a number sufficient to fill all vacancies as necessary in the veterans' hospital.

It should be specified to applicants that nobody will be appointed who does not wish to prepare for one of the specialty boards, with the direct understanding that they will remain in the veterans' hospital on service until they have qualified for such board, if the medical school affiliated with the Veterans Administration hospital training is approved by such boards as a suitable place to give such training.

If any ward officer shall prove unsatisfactory, in the opinion o the manager of the hospital and the "dean's



In the Pneumonias

DURING the recent past, numerous investigations have shown that penicillin is the treatment of choice in the pneumonias (pneumococcic, streptococcic, staphylococcic).* Penicillin is virtually nontoxic, even in the massive dosages at times required. Its efficacy apparently is the same against sulfonamide-resistant and nonresistant organisms of the groups named. Even in advanced stages of the disease, in the presence of serious complications, penicillin usually proves a life-saving measure.

Since penicillin has become available in quantities that may well be adequate for all needs, it merits being the physician's first thought with every pneumonia patient.

*Stainsby, W. J.; Foss, H. L., and Drumheller, J. F.: Clinical Experiences with Penicillin, Pennsylvania M. J. 48:119 (Nov.) 1944.

McBryde, A.: Hemolytic Staphylococcus Pneumonia in Early Infancy; Response to Penicillin Therapy, Am. J. Dis. Child. 68:271 (Oct.) 1944.

Stainsby, W. J., Chairman, Commission for the Study of Pneumonia Control of the Medical Society of the State of Pennsylvania: Up-to-Date Facts on Pneumonia, Pennsylvania M. J. 48:266 (Dec.) 1944.

Larsen, N. P.: Observations with Penicillin, Hawaii M. J. 3:272 (July-Aug.) 1944.

PENICILLIN-C.S.C.

Penicillin-C.S.C. deserves the physician's preference not only in the pneumonias, but whenever penicillin therapy is indicated. Rigid laboratory control in its manufacture, and bacteriologic and biologic assays, safeguard its potency, sterility, nontoxicity, and freedom from pyrogens. The state of purification reached in Penicillin-C.S.C. is indicated by the notably small amount of substance required to present 100,000 Oxford Units. Because of this purity, incidence of the undesirable reactions, attributed by many investigators to inadequate purification, is greatly reduced.

PHARMACEUTICAL DIVISION

COMMERCIAL SOLVENTS CORPORATION

17 East 42nd Street CSC New York 17, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

Penicillin-C.S.C. stands accepted by the Council on Pharmacy and Chemistry of the American Medical Association.



committee," he can be transferred to another medical service in the Veterans Administration which will not necessarily prepare him for board certification, and the "dean's committee" may refuse to recommend him for such board examination.

Any individual now on service at a Veterans Administration hospital may apply for complete training for his board through the manager to the "dean's committee," and the fact that he is on service in the veterans' hospital shall not prejudice in any way his appointment to a place which will prepare him for such board. It is, however, to be understood that in spite of excellent work in one department or one section of one department performed in the past, this does not release him from any part of the rotating residency plan or give him any preference over those who are entering from the outside. It will be within the province of the "dean's committee," however, to give him credit for work already done satisfactorily in the Veterans Administration hospital.

To expedite necessary appointments and to assure the immediate professional functioning of competent personnel, arrangements for appointment have been made in the following manner: The managers of local veterans' hospitals will have the authority to appoint and put to work immediately applicants recommended by the "deans' committees" as desirable and necessary for proper functioning of veterans' hospitals as grade A medical installations. The procedure is simplified so that such applicants on the completion of the proper forms may start without further delay. This latitude is allowed because applicants will be recommended by the aforementioned "deans' committees."

Letter No. 1 Sent to Deans of Medical Colleges

Under the new plan of the Acting Surgeon General of the Veterans Administration we expect to make arrangements with the medical schools of this country, which are located near veterans' hospitals, to utilize their faculties to augment and improve staffs at the veterans' hospitals.

I am enclosing herewith plan of future cooperation with teaching medical institutions and veterans' hospitals in the immediate proximity. This is a statement of the plan we intend to follow.

I am also enclosing the modus operandi of this plan.

I have been authorized by the Surgeon General to put this plan into effect and on the receipt of your consent to willingness to cooperate, orders will be sent to the manager of the hospital in your vicinity.

The method of appointment will be recommendation of the "dean's committee," a committee consisting of the dean of medical schools and any members of his faculty of professorial rank he may desire to appoint. These committees are to be the sole judges of the professional standards to keep in the hospitals under their professional supervision.

For the Acting Surgeon General:
For Paul B. Magnuson,
Director of Research and Education.
Major William T. Doran,
Assistant Director of Research and Education.

Letter No. 2 Sent to Deans of Medical Colleges

This is in answer to your very kind acceptance of cooperation with the veterans' hospitals in establishing new high grade professional services. The plan of organization and modus operandi you are probably familiar with by now.

May I say that it will be up to the medical schools to keep the standards of your hospital at a place in medical education which will warrant the approval of all the specialty boards in each department, and the hospitals will be passed individually by the specialty boards, not collectively. Your senior consultants will be your liaison officers between you and the medical service. They should first survey the hospital in consultation with the manager with the chiefs of various services.

Undoubtedly you will find some dead wood and it is imperative that dead wood should be eliminated wherever it is possible. The man who is interested and is a good doctor should be pushed onward. The man who is not interested except for the 4:30 bell should be eliminated. This service should not be cluttered up with uncooperative individuals, and that goes from the manager down. I will say to you personally that if the manager is not cooperative, I want to know it.

The appointment of these men, both as consultants and as residents, is simple. They can be put to work within a week from the time you recommend them by the following method. The manager of the hospital and the chief medical officer of the hospital have the right under the present Veterans Administration rule to put consultants on a fee basis at any time and as many as necessary for the proper staffing of the hospital and service to the patient. We have just arranged today for the appointment of the residents, who will be full time employees and must come under civil service, and an order has gone out to all hospital managers where the hospitals are located near teaching institutions that ward officers who are the equivalent of residents can be employed the day their form 57 is filled out and they can be put on the pay roll of the hospital, with one exception; that is, if their tables of organization are filled the manager should be directed to send telegraphic request to this office for authority for temporary appointment pending organization, so that the manager cannot say to you that his quota is filled and thereby hold an undesirable man in service.

A fee basis consultant whose assignment has no reference to a time element may be appointed without limit as to fee. It is distinctly understood that in such appointments no specific time is involved. A nominal fee of $15 to $25 per visit could be set with no requirement as to specific number of patients that must be seen at each visit. This sum can be increased to any reasonable amount as the situation may require and, in the cases of senior consultants, compensation will be given commensurate with a scale equal to the time devoted to equivalent professional work.

If it is possible to appoint a competent physiologist as senior consultant, we would like to have him make rounds with the medical staff and the surgical staff once a week. His fee can be fixed by you by recommendation to the manager.

I am enclosing a form 57 for your information. It is the standard form used in civil service and can be filled out in a short time by your applicant for residency. Form 57 is available at all veterans' hospitals. To prevent ordering away through Veterans Administration channels all men appointed through recommendation of the "dean's committee" as ward officer residents, they should be specifically earmarked for such service so that they will not be confused with other full time personnel.

I am also enclosing sufficient professional qualification forms that are self explanatory.

I want you to know how these things can be done so that the manager cannot refuse to do them. If you have any trouble please call this office long distance or telegraph, addressing your call to Major W. T. Doran or to me, room 826 Veterans Administration Building.

For the Acting Surgeon General:
For Paul B. Magnuson,
Director of Research and Education.
Major William T. Doran,
Assistant Director of Research and Education.

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY

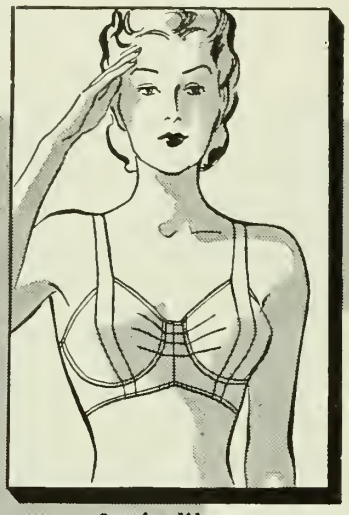


A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

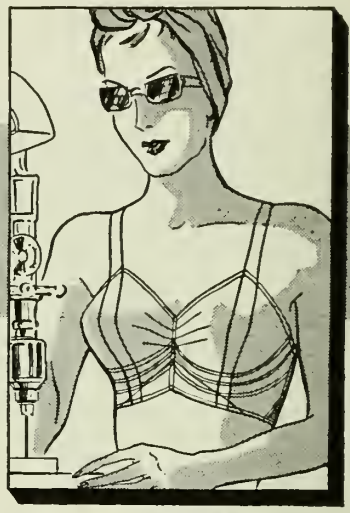
Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.


Service Woman


Nursing Mother


War Worker

CORRECTIVE HYGIENIC BREAST SUPPORT DESIGNED TO MEET THE SPECIFIC NEED OF THE INDIVIDUAL WOMAN

Lov-é Brassieres

IN MORE THAN 500 BUST-CUP-TORSO SIZE VARIATIONS

Proper physiological breast support for women in wartime is a subject that deserves the physician's thoughtful consideration.

That such consideration is being given this medical problem is attested by the fact that today, more Lov-é Corrective Brassieres are being fitted in accordance with physicians' prescriptions than at any time during the past twelve years.

Lov-é's highly specialized line of therapeutic breast supports enables the physician to prescribe remedial support for the individual patient with the complete assurance that the correct model indicated will be fitted from the more than 500 bust-cup-torso size variations available. Special corrective models have been designed for specific breast conditions, such as, ptotic, atrophic, hypertrophic, prenatal, postnatal, amputation, and post-operative. Also available: sleeping brassieres, hospital binders, artificial breasts, anatomically designed muscle pads, and maternity garter supports.

LOV-É PRODUCTS ARE EXPERTLY FITTED IN EXACT ACCORDANCE WITH THE PHYSICIAN'S PRESCRIPTION BY FACTORY-TRAINED LOV-É BRASSIERE TECHNICIANS

WAR BONDS FOR VICTORY!

LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS

INDEX TO ADVERTISERS

Abbott Laboratories 51
Aloe, A. S. Company 65
American Meat Institute 13
Ar-Ex Cosmetics, Inc. 68
Ayerst, McKenna & Harrison, Ltd. 32
Borden Company 40
Bristol Laboratories 43
Burroughs Wellcome & Company 11, 47
Camel Cigarettes 6, 7
Camp, S. H. & Company 44
Chicago Medical Society 63
Ciba Pharmaceutical Products, Inc. 16
Coca-Cola Company 74
Commercial Solvents Corporation 55
Cook County Graduate School of Medicine 67
Denver Chemical Manufacturing Company 57
Faith Hospital 71
General Electric X-ray Corporation 61
Glenwood Sanatorium 74
Gradwohl School of Laboratory Technique 64
Hamilton-Schmidt Surgical Company 69
Hanger, J. E., Inc. 64
Hanley, Edmund F., Distributor 71
Holland-Rantos Company 60
Hynson, Westcott & Dunning, Inc. 63
Isle, W. E., Company 71
Lilly, Eli and Company 20
Lilly, Eli and Company ..... Insert
Lov-E Brassiere Company 58
Luzier's, Inc. 70
M & R Dietetic Laboratories, Inc. 15
Major Clinic Association 5
Mead Johnson & Company 76
Medical Protective Company 66
Milwaukee Sanatarium 39
Miscellaneous Announcements 59
Mosby, C. V. Company 35
Mullen Ambulance 67
National Dairy Products 75
National Pathological Laboratory 68
Neurological Hospital, The 71
Norbury Sanatorium 65
North Shore Health Resort 62
Parke, Davis & Company 2, 3
Philip Morris & Company 18
Physicians Casualty Association 68
Pogue, Mary E., School 68
Producers Creamery Company 64
Quincy X-ray & Radium Laboratories 69
Ralph Sanatarium 67
Schenley Laboratories 17
Schering Corporation 19
Schieffelin & Company 62
Schmid, Julius, Inc. 12
Searle, G. D. & Company 27
Smith-Dorsey Company 71
Smith, Kline & French Laboratories 31
Squibb, E. R. & Sons 36
Stearns, Frederick & Company 73
Stokes Sanatarium 67
Upjohn Company 9
Wallace Sanitarium 69
Wander Company, The 48
Warren-Teed Products Company 72
White Laboratories 53
Winthrop Chemical Company 14
Worrell, Dorothy 67
Wyeth, Inc. 28
Zemmer Company 69

MISCELLANEOUS ANNOUNCEMENTS

Vahle Manor Convalescent Home—Private and semi-private rooms. All types convalescent or chronic cases cared for. Special attention given treatments and special diets. Rates reasonable. 5904 Cates, St. Louis, Mo. Telephone—PA 5161.

WANTED physician in Alma, Lafayette County, Mo. We are in need of a competent physician. No practice to buy. A good drugstore. Write for particulars, or better, come and see for yourself. Address, Alma Pharmacy, Alma, Mo.

FOR SALE—Office Equipment. Furnishings from two complete offices, excellent condition, reasonable, including Steelux examining table, Dean's Table (Hydrolic Chair), instrument cabinets, chairs, revolving stools, instrument tables, waste receptacles, etc. Furniture almost like new. Address: Box 146, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

BOOK REVIEW

NEW AND NONOFFICIAL REMEDIES—1945. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1945. Issued under the Direction and Supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Chicago: American Medical Association, 535 North Dearborn Street. 1945.

Each year a revised list of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association as of January first is published in book form under the title of "New and Nonofficial Remedies." The book contains the descriptions of acceptable proprietary substances and their preparations, proprietary mixtures if they have originality or other important qualities, important nonproprietary nonofficial articles, simple pharmaceutical preparations, and other articles which require retention in the book.

Some fifteen or twenty newly accepted preparations appear in the 1945 volume. A large number of preparations have been omitted, mainly brands of official preparations. The general statement concerning these pharmacopeial preparations has been retained for the information of physicians.

As stated in the preface, the entire book has been scanned to bring it up to date with the latest medical knowledge. It is noted that the section "Articles and Brands Accepted by the Council But Not Described in N. N. R.," a vestigial remnant of which appeared in the 1944 volume, has now entirely disappeared.

This section appeared to have been a catch-all for brands of official articles the acceptance of which the manufacturers desired for reasons of prestige, and miscellaneous preparations which were not necessarily or importantly within the Council's scope and which did not require detailed description. Many of the official preparations have been transferred to the body of the book and the others deleted. One is struck by the large amount of medical information contained in this volume. Certainly no other compendium of comparable price contains so much.

CONGRESS ON MEDICAL EDUCATION

The Council on Medical Education and Hospitals has announced that the Annual Congress on Medical Education and Licensure will be held at the Palmer House in Chicago on February 11 and 12. The session will deal primarily with reconversion problems, including the continuation education of physician veterans, the relocation of physicians and the transition to a peacetime educational program in medical education.



The active ingredient of Koromex Jelly is phenylmercuric acetate, whose remarkable contraceptive efficiency was affirmed in the illuminating report by Eastman and Scott (Human Fertility 9:33 June 1944). Their clinical and experimental data confirmed the earlier findings of Baker, Ranson and Tynen (Lancet 2:882 October 15, 1938). In addition to its excellent spermicidal efficacy, Koromex Jelly possesses to a high degree those other qualities which are physiologically and aesthetically so important to patients... For these reasons you can prescribe Koromex Jelly with *confidence.*

ACCEPTED AMERICAN MEDICAL ASSN.

Write for literature.

Holland-Rantos Co., Inc.

551 Fifth Avenue, New York 17, N. Y.



at home, in your own country

To those of you who left your homes to serve your country we extend a warm and friendly welcome, a happy welcome home. The extraordinary service the medical profession gave in the war can't be told here. Here we want to say how glad we are to have you back again, away from the heavy change of war; back into your proper sphere, back again into your peace-time practice, back to a long, peaceful, happy service in the nation's health. ▸ ▸ ▸ Back again at home, in your own country.

GENERAL ELECTRIC X-RAY CORPORATION

Ad No. 2500A—6 x 9 in.—Medical & Hospital Publications—Jan. 1946—Job No 32051

Uniform Satisfaction

Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl)-3-ethyl hexane)

Clinicians agree that Schieffelin BENZESTROL is a significant contribution to therapy in that it is both estrogenically effective and singularly well tolerated, whether administered orally or parenterally.

"In our hands it has proved to be an effective estrogen when administered either orally or parenterally and much less toxic than diethylstilbestrol at the therapeutic levels" (Talisman, M. R.—Am. Jour. Obstet. & Gynec. 46, 534, 1943)

"During the last two years I have used the new synthetic estrogen Benzestrol in patients in whom estrogenic therapy was indicated. The results have been uniformly satisfactory". (Jaeger, A. S. Journal Indiana State Med. Assn. 37, 117, 1944)

Schieffelin BENZESTROL is indicated in all conditions for which estrogen therapy is ordinarily recommended and is available in tablets of 0.5, 1.0, 2.0 and 5.0 mg.; in solution in 10 cc. vials, 5 mg. per cc.; and vaginal tablets of 0.5 mg. strength.

Literature and Sample on Request

Schieffelin & Co.

Pharmaceutical and Research Laboratories

20 COOPER SQUARE • NEW YORK 3, N.Y.



North Shore
Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road *Medical Director* Phone Winnetka 211

Effective
Convenient
Economical

THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

Complete literature will be furnished on request.



HYNSON, WESTCOTT & DUNNING, INC.
BALTIMORE, MARYLAND

WHO—

Chicago Medical Society

WHAT—

Annual Clinical Conference

WHEN—

March 5, 6, 7, 8, 1946

WHERE—

Palmer House, Chicago, Illinois

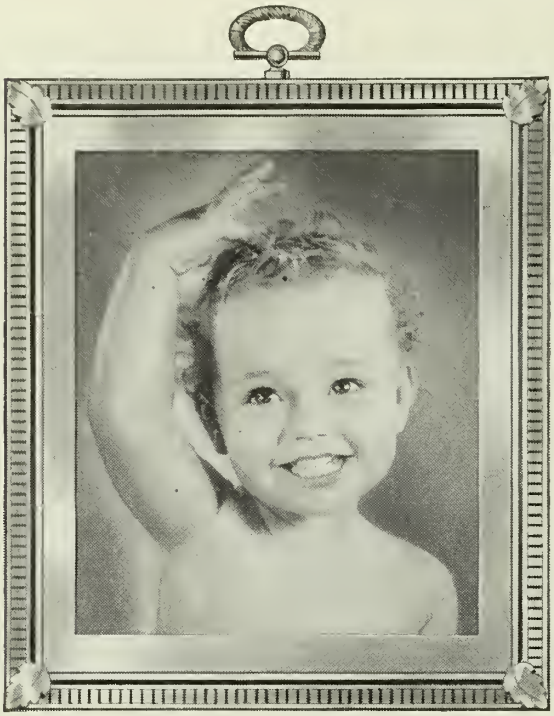
WHY—

- For daily scientific programs consisting of half-hour lectures and clinics, beginning at 8:30 A. M. and continuing until 5:00 P. M.
- To inspect scientific and technical exhibits
- To hear new ideas presented by outstanding clinicians from all sections of the United States
- To renew acquaintances
- To relax away from your own office
- To attend a banquet on Thursday night

HOW—

By making YOUR reservation through The Chicago Convention Bureau, 33 North LaSalle Street, Chicago 2, Illinois

Registration Fee $5.00



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASS'N



HANGER

(Patented)

HIP CONTROL LEG

DURALUMIN AND WILLOW LIMBS
MECHANICAL ARMS
TRUSSES - CANES
CRUTCHES - INVALID CHAIRS
Illustrated Catalog On Request

J. E. HANGER, INC.
1912 Olive St.
Phone: Central 1088
St. Louis 3, Mo.



FOR MEN AND WOMEN!

A WORTHWHILE CAREER IN LABORATORY TECHNIQUE

THE GRADWOHL SCHOOL OF LABORATORY TECHNIQUE is an ethical school, manned by competent ethical physicians and technologists and enjoys a high rating among the medical profession. . . . Graduates placed in desirable positions in 1943. Gradwohl graduates are recognized as expert technicians.

Course includes—Clinical Pathology. Hematology; Serology; Applied Bacteriology; Basal Metabolism; Blood Chemistry; Electrocardiography; Parasitology; Tissue Cutting and Staining and X-Ray Technique,

ENROLL NOW for priority. 12 months course; 6 months internship. Classes start Jan., March, July, Sept., Oct.

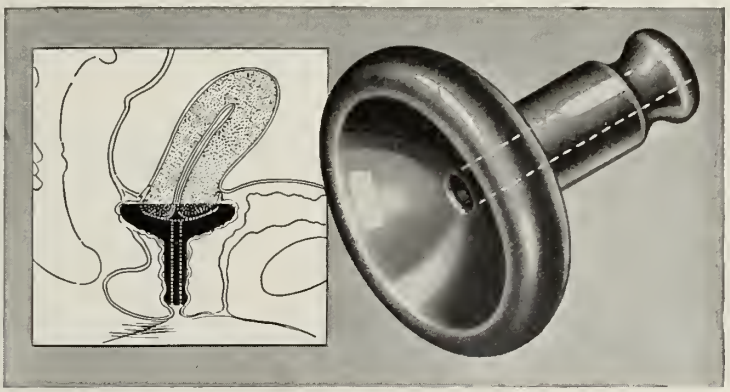
Write for Free Catalog

31st Successful Year

GRADWOHL SCHOOL OF LABORATORY TECHNIQUE

Under the Personal Supervision of
R. B. H. Gradwohl, M. D., Sc. D., Director
3514 Lucas Av. St. Louis, Mo.

An Improved Device for Treatment of Inoperable Uterine Prolapse



The Emmert-Gellhorn Pessary with new drainage features

In this modification by Dr. Frederick V. Emmert, the original Gellhorn pessary for relief of inoperable prolapse has been improved with great success. The new pessary is made of one piece of Neicomold, a boilable synthetic material, unbreakable, smooth and unaffected by the genital secretions. Neither does it irritate or affect the vaginal mucosa. Instead of a solid stem, the Emmert-Gellhorn pessary employs a stem drilled throughout its length. This offers the advantage of drainage, preventing accumulation of secretions. Fewer removals of the pessary for cleaning are thus needed; a great benefit to aged patients. For greater comfort, the stem is ¼ inch shorter than that of the former pattern, and has no knob. The stem, however, is hollowed to permit easy grasp for removal.

8E5162A—Emmert-Gellhorn Pessary, diameter 2 or 2½ inches, state size, each.....**$2.25**

8E5162B—Special Sizes—2¼, 2¾ or 3 in., each.**$2.75**

A. S. ALOE COMPANY

1831 Olive St. — St. Louis 3, Mo.

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• **ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.**





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

Want better protection . . .

. . . Policy coverage is no better than the service by which it is administered.

for greater malpractice hazards?

. . . Prevailing unrest multiplies the dangers in every doctor's practice. His protection should therefore be more than good.

Use Specialized Service!

. . . Even if all policies were the same, Specialized Service would still put the "plus" in Medical Protective.

The
Medical Protective Company
of
Fort Wayne, Indiana

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our **ALCOHOLIC** treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting January 14, January 28, and every two weeks thereafter. Four Weeks Course in General Surgery starting January 28.

GYNECOLOGY—Two Weeks Intensive Course starting February 25. One Week Personal Course in Vaginal Approach to Pelvic Surgery starting February 18.

OBSTETRICS—Two Weeks Intensive Course starting February 11.

ROENTGENOLOGY—Courses in X-Ray Interpretation, Fluoroscopy, Deep X-ray Therapy available every week.

MEDICINE—Two Weeks Intensive Course starting February 18.

ELECTROCARDIOGRAPHY & HEART DISEASE—One Month Personal Course starting February 1.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

BUY VICTORY BONDS

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death	**$ 8.00**
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	**$16.00**
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	**$24.00**
$75.00 weekly indemnity, accident and sickness	quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

BUY VICTORY BONDS

FREE SAMPLE

DR. _____
ADDRESS _____
CITY _____
STATE _____



ROUGH HANDS
FROM TOO MUCH SCRUBBING?

Soften dry skin with AR-EX CHAP CREAM! Contains corbonyl diomide, shown in hospitol test to moke skin softer, smoother, ond even whiter! *Archives of Derm. ond S., July, 1943.* FREE SAMPLE.

AR-EX CHAP CREAM

AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

THE MARY E. POGUE SCHOOL

For Retarded or Exceptional Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

51 Geneva Road Wheaton, Illinois Phone Wheaton 66

HAMILTON-SCHMIDT SURGICAL CO.

St. Louis, Missouri

Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE

CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919

QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)

W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

ZEMMER

Prescribe or Dispense
Zemmer Pharmaceuticals
A complete line of laboratory controlled ethical pharmaceuticals.
Mo 1-46
Chemists to the Medical Profession for 44 years.
The Zemmer Company
Oakland Station
Pittsburgh 13, Pa.



The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.

THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. Brinson, M.D.
Medical Director

•

Walter R. Wallace
Business Manager

Why Do People Use Cosmetics?

Isn't it because they wish to improve their appearance?

Why do people wish to improve their appearance? Isn't it because they have a natural desire to be as physically attractive as possible, both to satisfy their self-respect and to please those with whom they come in contact?

The desire to look and be attractive is an intimate part of human nature, and far from being an idle vanity it is an extremely vital adjunct to self-confidence and self-respect.

In the Federal Food, Drug, and Cosmetic Act, the term "cosmetic" is defined as, "(1) Articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance. . . "

From this definition it is obvious that the chief functions of cosmetics are to cleanse and to improve the appearance, to beautify.

Cleanliness may be said to be the foundation of a lovely appearance. We are sure you will agree that the fundamental reason why people use cosmetics is to improve their appearance, to look lovelier.

It has been said that the function of a cosmetic is to encourage the normal physiology of the skin, not to change it. Cosmetics improve the appearance of the skin; they do not in our opinion change its physiology, which is to say its normal functioning, structure and individual characteristics.

Luzier's Service is made available to you by Cosmetic Consultants who assist you with the selection of suitable Luzier beauty aids and suggest how they should be applied to achieve the best results, the loveliest cosmetic effect. A card addressed to Luzier's, Inc., Kansas City 3, Missouri, will put you in touch with the local distributor of our products.

LUZIER'S, INC.,

Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI

FAITH HOSPITAL

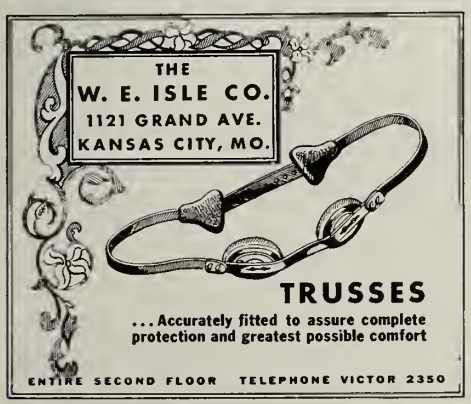
A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

BUY VICTORY BONDS



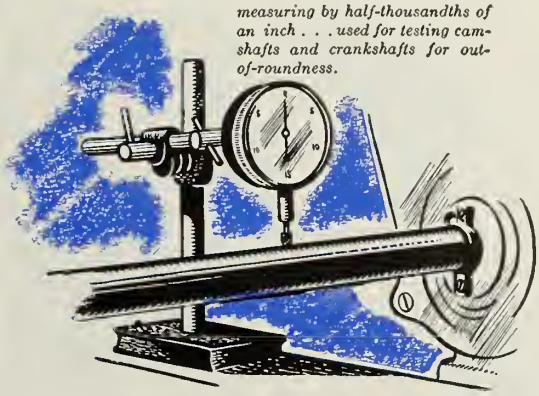
IMMEDIATE DELIVERY

McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps —Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service

Phone for Demonstration

EDMUND F. HANLEY—Distributor

1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.



DIAL TEST INDICATOR measuring by half-thousandths of an inch . . . used for testing camshafts and crankshafts for out-of-roundness.

WHEN IT'S *Precision*

YOU REQUIRE . . .

FOR the treatment of pernicious anemia, medical science has found a specific in liver therapy.

But like the highly sensitive dial test indicator which measures within .0005 inch, liver extract—to give precise results—must be manufactured with the utmost care.

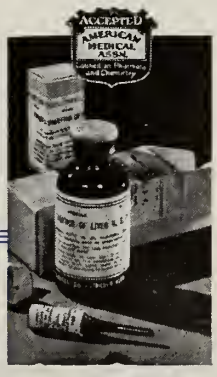
. . . And nothing less than precision will meet the requirements of the competent physician.

For these requirements, Purified Solution of Liver, Smith-Dorsey, deserves your confidence.

Its uniform purity and potency are traceable to the conditions under which it is produced—to the capably staffed laboratories, the modern facilities, the rigidly standardized testing procedure.

You may be assured of *precision* in liver therapy when you use

PURIFIED SOLUTION OF *Liver*



SMITH-DORSEY

Supplied in the following dosage forms: 1 cc. ampoules and 10 cc. and 30 cc. ampoule vials, each containing 10 U.S.P. Injectable Units per cc.

THE SMITH-DORSEY COMPANY
Lincoln, Nebraska

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

CHLOR-U-CAIN

Burn Therapy

Greatly Shortens Healing Time

CHLOROPHYLL 1%

Accelerates burn healing, shortens time by as much as 50%*. Minimizes scar formation and speeds regeneration of tissue.

UREA 33.2%

Exerts a solvent action that aids in removing necrotic tissue debris. Tends to minimize foul odors and prevent infection.

BENZOCAINE 10%

Because only slowly absorbed, remains localized at burn site to give sustained anesthetic action.

OINTMENT BASE

Vanishing, greaseless, washable, absorbent.

WARREN-TEED

Medicaments of Exacting Quality Since 1920

THE WARREN-TEED PRODUCTS COMPANY, COLUMBUS 8, OHIO

*"Chlorophyll Urea Ointment in the Treatment of Burns and Chronic Ulcers." Industrial Medicine, 14:9, 730, Sept., 1945.

REPRINT AVAILABLE ON REQUEST



Warren-Teed Ethical Pharmaceuticals: capsules, elixirs, ointments, sterilized solutions, syrups, tablets. Write for literature.



Styled for Individual Tastes

Neo-Synephrine for intranasal use is "styled" in three distinct forms too. All three provide the same real breathing comfort . . . prompt decongestion that endures for hours. Only the vehicles are different . . . isotonic saline, unflavored; Ringer's Solution, pleasantly aromatic; jelly in applicator tubes for convenience.

Neo-Synephrine

HYDROCHLORIDE

LAEVO-4-HYDROXY-β-METHYLAMINO-1-HYDROXY-ETHYLBENZENE HYDROCHLORIDE

For Nasal Decongestion

THERAPEUTIC APPRAISAL: Quick acting, long lasting . . . nasal decongestion without compensatory recongestion; relatively free from cardiac and central nervous system stimulation; consistently effective upon repeated use; no appreciable interference with ciliary activity; isotonic to avoid irritation.

INDICATED for symptomatic relief in common cold, sinusitis, and nasal manifestations of allergy.



Samples Upon Request

ADMINISTRATION may be by dropper, spray or tampon, using the ¼% in saline or in Ringer's solution in most cases—the 1% in saline when a stronger solution is indicated. The ½% jelly in tubes is convenient for patients to carry.

SUPPLIED as ¼% and 1% in isotonic salt solution, and as ¼% in isotonic solution of three chlorides (Ringer's), bottles of 1 fl. oz.; ½% jelly in ⅜ oz. collapsible tubes with applicator.

Frederick Stearns *& Company*

Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND.

Trade-Mark Neo-Synephrine—Reg. U. S. Pat. Off.

Pure.. Wholesome.. Refreshing

Safeguarded constantly by scientific tests, Coca-Cola is famous for its purity and wholesomeness. It's famous, too, for the thrill of its taste and for the happy after-sense of complete refreshment it always brings. Get a Coca-Cola, and get the feel of refreshment.



Drink Coca-Cola Delicious and Refreshing



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address

Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

Formulac



for adequate infant nutrition

FORMULAC, newly introduced on the market, is the trade name for a fortified infant food which makes supplementary vitamin administration unnecessary.

FORMULAC (a reduced milk in liquid form) was developed by E. V. McCollum. It is sufficiently supplemented with vitamins and minerals to render it an adequate food for babies. Incorporation of the vitamins *into the milk itself* eliminates the risk of maternal error or carelessness.

FORMULAC presents a flexible basis for formula preparation. Supplemented by carbohydrates at your discretion, it may readily be adjusted to fit each individual child's needs.

FORMULAC has been tested clinically, and found satisfactory in promoting infant growth and development.

FORMULAC is inexpensive—within price range of even low income groups. It is on sale at most grocery and drug stores.



FORMULAC IS PROMOTED ETHICALLY

For professional samples and further information about this new infant food, mail a card to National Dairy Products Company, Inc., 230 Park Avenue, New York 17, N. Y.

NATIONAL DAIRY Sealtest PRODUCTS CORP.

ACCEPTED AMERICAN MEDICAL ASSN

NATIONAL DAIRY PRODUCTS COMPANY, INC.
NEW YORK, N.Y.

Boston Medical Library
8 Fenway

SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

MEAD'S Oleum Percomorphum furnishes 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10- and 50-cc. bottles and bottles of 50 and 250 capsules. Ethically marketed.

MEAD JOHNSON & COMPANY, Evansville 21, Ind., U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 2

FEBRUARY, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

A Roentgen-Ray Classification of the Pneumonias With Special Reference to the Tissues Involved

Volvulus of the Stomach

Barnes Hospital Case Reports

BOSTON
FEB 8 1946
MEDICAL LIBRARY

EDITORIALS

Annual Session

The Veteran Physician

(Contents Index Page 81)

PROGRAM OF ANNUAL SESSION—MARCH 24, 25, 26

The Hand of Time

MAPHARSEN now entering its thirteenth year of active clinical use, has assumed a leading role among arsenical antisyphilitics. More than 150,000,000 doses of MAPHARSEN have been used clinically during the past five years with a minimum of reaction and maximum of therapeutic effect.



PARKE, DAVIS & COMPANY

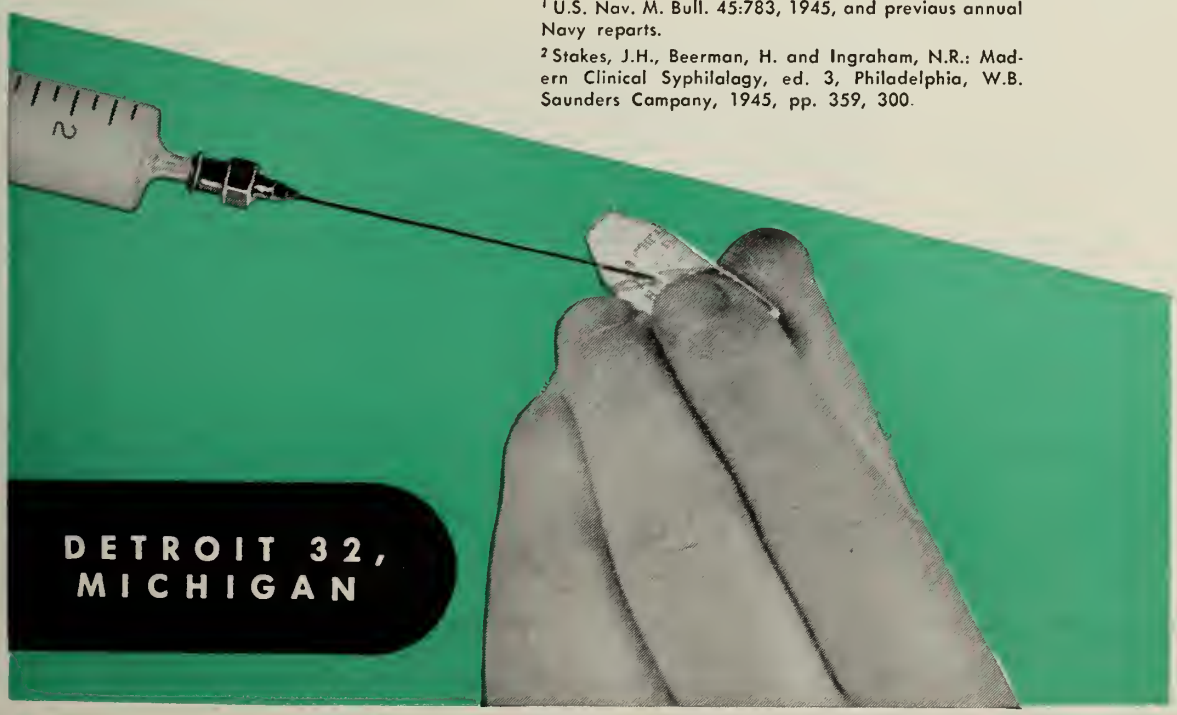
and MAPHARSEN

United States Navy records[1] consistently show the relatively low toxicity of MAPHARSEN. Over the ten-year period, 1935-1944 inclusive, Navy reports indicate one fatality for every 167,826 injections of MAPHARSEN. Compare this to the Navy reports on neoarsphenamine for the same period which show one fatality in every 28,463 injections.

MAPHARSEN (meta-amino-para-hydroxyphenyl arsine oxide (arsenoxide) hydrochloride) offers another great advantage in that its solution does not become more toxic on standing, nor does agitation or exposure to air increase its toxicity. Stokes[2] states that no loss of efficacy or increase in toxicity result when the solution is allowed to stand for several hours exposed to the air. Therefore, haste need not be made in preparation of the solution for injection.

[1] U.S. Nav. M. Bull. 45:783, 1945, and previaus annual Navy reparts.

[2] Stakes, J.H., Beerman, H. and Ingraham, N.R.: Madern Clinical Syphilalagy, ed. 3, Philadelphia, W.B. Saunders Campany, 1945, pp. 359, 300.



Hotel Reservations for the Annual Session

Jefferson Hotel, St. Louis — March 24, 25, 26, 1946

Because of the limited hotel accommodations available for conventions it will be necessary to clear all reservations through the housing bureau and reservations should be made early. Reservations for rooms to be occupied by two or more persons will assist in the housing of all attending the session. Hotel rates follow:

Hotel	For One Person	For two Persons		
		Double Bed	Twin Beds	Two Room Suites
Claridge	$3.00-$4.00	$4.-$6.50	$5.00-$6.50	$10.00 & up
Coronado	3.00 & up	5.00 & up	6.00 & up	8.00-13.00
DeSoto	2.65- 7.00	4.00- 7.00	5.30-10.00	10.00
Jefferson	3.50- 5.00	4.50- 6.00	6.00- 8.00	12.00-20.00
Majestic	2.00- 2.25	2.75- 3.25	4.00	
Melbourne	3.20- 4.20	5.30- 6.80	5.30- 7.30	

All Reservations Must Be Received Not Later Than March 14, 1946

Housing Bureau, Missouri State Medical Ass'n.
910 Syndicate Trust Building
St. Louis 1, Mo.

Please reserve the following accommodations for the Missouri State Medical Ass'n., March 24-26.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED.

Single Room.....Double Bedded Room.....Twin Bedded Room.....
2 Room Suite.....Other Type of Room.....
Rate: From $..... to $.....

First Choice Hotel.....
Second Choice Hotel.....
Third Choice Hotel.....

Arriving at Hotel (date) .....hour ..... A.M. ..... P.M. Leaving (date) ..... hour ..... A.M. .....P.M.

Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

.....

.....

.....

(Individual Requesting Reservations)

Name .....
Address .....
City and State .....

If the hotels of your choice are unable to accept your reservation the Housing Bureau will make as good a reservation as possible elsewhere providing that all hotel rooms available have not already been taken.

CONTENTS

A Roentgen-Ray Classification of the Pneumonias With Special Reference to the Tissues Involved. L. R. Sante, M.D., St. Louis 93

Volvulus of the Stomach. Report of a Case. Nicholas A. Schneider, M.D., and Burton Bohannon, M.D., St. Louis 97

Case Reports of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 100

Abstracts and Digests—

Tuberculosis 105

Cancer Clinics at the Ellis Fischel State Cancer Hospital 106

Book Reviews 106, 128, 131

Editorials—

Annual Session 109

Veteran Physicians 109

News Notes 109, 112

Physicians Returned From Military Service..... 110

Organization Activities 113

Legislation 117

Society Proceedings 119

Miscellany 124

Woman's Auxiliary 130

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Herman L. Kretschmer, Chicago.
President-Elect, Roger I. Lee, Boston.

MISSOURI STATE MEDICAL ASSOCIATION

88th Annual Session, St. Louis
March 24, 25, 26, 1946

President, A. S. Bristow, Princeton.

Vice Presidents, Robert Mueller, St. Louis; F. T. H'Doubler, Springfield; W. L. Brandon, Poplar Bluff.

Speaker, E. J. Schisler, St. Louis; Vice Speaker, Stanley P. Howard, Jefferson City.

Treasurer, C. E. Hyndman, St. Louis.

Secretary-Editor, R. L. Thompson, St. Louis.

Business Manager-Assistant Editor, Helen Penn, St. Louis.

Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1944-1946; alternate, M. Pinson Neal, Columbia. W. L. Allee, Eldon, 1944-1946; alternate, W. A. Bloom, Fayette. Robert E. Schlueter, St. Louis, 1943-1945; alternate, J. Frank Jolley, Mexico. James R. McVay, Kansas City, 1943-1945; alternate, H. L. Kerr, Crane.

Standing Committees

Scientific Work—Harry C. Lapp, Kansas City, Chairman (1946); Nathan A. Womack, St. Louis (1945); Ralph L. Thompson, St. Louis.

Postgraduate Course—Raymond Muether, St. Louis, Chairman (1945); David LeMone, Columbia (1946); G. T. Bloomer, St. Joseph (1946); Guy D. Calloway, Springfield (1947).

Publication—R. L. Thompson, St. Louis, Chairman; W. A. Bloom, Fayette; Robert Mueller, St. Louis; J. William Thompson, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis (1946); W. Merritt Ketcham, Kansas City (1947); Robert Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1945).

Defense—Charles E. Hyndman, St. Louis, Chairman (1945); O. B. Zeinert, St. Louis (1946); L. P. Forgrave, St. Joseph (1946); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1946); F. L. Kneibert, Poplar Bluff (1946); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947); James R. McVay, Kansas City (1945).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1946); Paul F. Cole, Springfield (1946); David S. Dann, Kansas City (1945).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1946); C. A. W. Zimmermann, Cape Girardeau (1946); W. F. Francka, Hannibal (1947); Ira H. Lockwood, Kansas City (1945).

Mental Health—B. Landis Elliott, Kansas City, Chairman (1946); Frank M. Grogan, St. Louis (1946); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947); Ralf Hanks, Nevada (1945).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1946); Buford G. Hamilton, Kansas City (1946); J. Milton Singleton, Kansas City (1947); H. B. Goodrich, Hannibal (1947); Joseph D. James, Springfield (1945).

Infant Care—U. J. Busiek, Springfield, Chairman (1945); Park J. White, St. Louis (1946); E. H. Schorer, Kansas City (1946); Damon O. Walthall, Kansas City (1945); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1946); Grayson Carroll, St. Louis (1946); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1945).

Constitution and By-Laws—O. S. Gilliland, Kansas City, Chairman (1947); B. Landis Elliott, Kansas City (1947); Joseph C. Peden, St. Louis (1946); G. T. Bloomer, St. Joseph (1946); H. L. Mantz, Kansas City (1945).

Fractures—Frank D. Dickson, Kansas City, Chairman (1946); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947); James D. Horton, Springfield (1945); J. R. Elliott, Kansas City (1945).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1946); Philip S. Luedde, St. Louis (1945); Robert S. Minton, St. Joseph (1946); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1946); Arthur W. Neilson, St. Louis (1946); W. S. Sewell, Springfield (1945); C. T. Ryland, Lexington (1947); Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1945); E. C. Funsch, St. Louis (1946); E. M. Fessenden, St. Louis (1947); R. R. Oglevie, Kansas City (1945); J. E. Castles, Kansas City (1946).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); C. A. W. Zimmermann, Cape Girardeau (1947); John L. Washburn, Versailles (1946); Frank L. Feierabend, Kansas City (1945); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; W. W. Buckingham, Kansas City; J. L. Mudd, St. Louis (1945).

Study of Cardiac Diseases—J. DeVoine Guyot, Jefferson City, Chairman (1945); A. Graham Asher, Kansas City (1946); Julius Jensen, St. Louis (1947); E. J. Schisler, St. Louis (1945); Horace W. Carle, St. Joseph (1946).

Postwar Planning—M. Pinson Neal, Columbia, Chairman; Robert Mueller, St. Louis; Ira H. Lockwood, Kansas City (1945).

Adviser to Woman's Auxiliary—H. L. Mantz, Kansas City.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

W. A. BLOOM, Fayette, Chairman

H. B. GOODRICH, Hannibal, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, H. B. Goodrich, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, R. B. Denny, Creve Coeur. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, Wm. A. Bloom, Fayette. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Herbert L. Mantz, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.

More pleasure to you, Doctor!

THREE nationally known research organizations recently reported the results of a nationwide survey to discover the cigarette preferences of physicians and surgeons.

Physicians all over the United States were asked the simple question: "What cigarette do you smoke, Doctor?" The question was put solely on the basis of *personal preference as a smoker.*

The thousands and thousands of answers from these physicians in every branch of medicine were checked and re-checked. The result:

More physicians named Camel as their favorite smoke than any other cigarette. And the margin for Camels was most convincing.

Certainly the average physician is busier today than ever before and is deserving of every bit of relaxation he can find in his day-by-day routine . . . a cigarette now and then if he likes. And the makers of Camels are glad to know that physicians find in Camels that extra margin of smoking pleasure that has made Camels such a favorite everywhere.



According to this recent nationwide survey:

More Doctors Smoke Camels

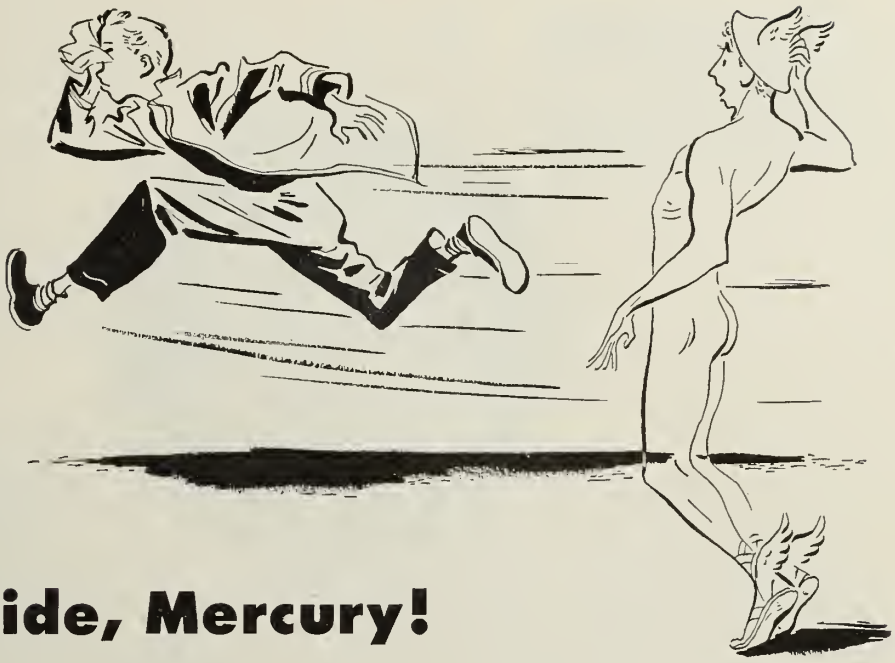
than any other cigarette



R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	L. H. Ferguson	Monett	Geo. W. Newman	Cassville
Barton	8			Vern T. Bickel	Lamar
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Alfred Collier	Chillicothe
Callaway	5	J. J. Blasko	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1			W. G. Atwood	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			W. B. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	R. R. Cutler	Washington	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	D. L. Coffman	Fayette	J. W. Gardner	Glasgow
Jackson	7	Fred B. Kyger	Kansas City	Frank B. Leitz	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Jesse F. Donnell	Crystal City	J. J. Commerford	Crystal City
Johnson	6	Charles S. Johnson	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	H. S. Harris	Troy	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	W. L. Allee, Acting	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	E. J. T. Anderson	Montgomery City	J. O. Helm	New Florence
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	J. R. Chapman	Steele	C. F. Cain	Caruthersville
Perry	10	O. A. Carron	Perryville	Theodore Fischer, Acting	Altenburg
Pettis	6			J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	L. L. Nickell	Moberly	T. S. Fleming, Acting	Moberly
Ray	1	I. E. Goldberg	Polo	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon		
St. Francois-Iron-Madison-Washington-Reynolds	10	W. Harry Barron	Frederickstown	John W. Hunt, Jr.	Leadwood
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	C. A. McBurney	Slater	W. K. Nix	Marshall
Scott	10	G. W. H. Presnell	Sikeston	W. O. Finney	Chaffee
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	C. Braxton Davis	Nevada	Wm. H. Allen	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



One side, Mercury!

Patients want quick relief from the pain of impacted or superficially placed foreign particles in the eye. How fast can you act? Much depends upon the anesthetic you employ. Ophthalmologists using Butyn Sulfate 2% Solution in the eye find anesthesia so rapid that simple operations may be started *within one minute*. This rapid action of Butyn Sulfate saves you time in the induction of local anesthesia, and its anesthetic effectiveness saves time by securing the acquiescence and cooperation of the patient.

● Compared to cocaine, the anesthesia produced by Butyn Sulfate is *more rapid, more profound, more efficient* and *less toxic in the quantity required*. It does not soften the corneal epithelium, seldom dilates the pupil, does not affect vessels, accommodation or ocular tension, and does not dry the conjunctiva. ● If you do not have Butyn Sulfate 2% Solution on hand for routine and possible emergency use, why not call your pharmacist for a 1-fluidounce dropper bottle—now? No Federal Narcotic Blank is required.

ABBOTT LABORATORIES, NORTH CHICAGO, ILLINOIS.

BUTYN SULFATE
REG. U. S. PAT. OFF.
2% Solution

(p-aminobenzoyl-di-butyl-amino-propanol sulfate, Abbott)

ETHICS



There can be no middle course between the ethics of the medical profession and the temptations of the market place in the field of anatomical supports. Here the standards of the businessman must be elevated to the standards of the doctor because the customer of the businessman is the patient of the doctor. Anything else is "merchandising quackery." We at Camp have for many decades controlled our distribution throughout the recognized retail institutions which like the doctor have earned the respect and confidence of their home communities. No appeal is used in our advertising approach to the consumer which fails to meet the precepts of the profession. We serve the physician and surgeon by living up to our chosen function of supplying scientific supports of the finest quality in full variety at prices based on intrinsic value. We try to insure the precise filling of prescriptions through the regular education and training of fitters. In cooperation with medical and educational public health authorities we play the role our resources permit in promoting better posture and body mechanics. That is our idea of the practical ethical standards which permit the businessman to solicit the recommendation of the doctor.

Camp Anatomical Supports have met the exacting test of the profession for four decades. Prescribed and recommended in many types for prenatal, postnatal, postoperative, pendulous abdomen, visceroptosis, nephroptosis, hernia, orthopedic and other conditions. If you do not have a copy of the Camp "Reference Book for Physicians and Surgeons", it will be sent upon request.

CAMP TRADE MARK ANATOMICAL SUPPORTS

S. H. CAMP & COMPANY • Jackson, Michigan • *World's Largest Manufacturers of Scientific Supports*
Offices in CHICAGO • NEW YORK • WINDSOR, ONTARIO • LONDON, ENGLAND

"*Some Griefs Are Medicinable*"
... Cymbeline act III, scene II

Many patients stricken with grief over misfortune or bereavement develop abnormal reactive depressions... differentiated from normal depressions of mood by their inordinate intensity and stubborn persistence.
With these patients, Benzedrine Sulfate therapy is often dramatically effective.
In many cases,

benzedrine sulfate *(racemic amphetamine sulfate, S.K.F.)*

tablets and elixir

will break the vicious circle of depression, renew the patient's interest and optimism, and restore his capacity for physical and mental effort.



Smith, Kline & French Laboratories, *Philadelphia, Pa.*





The foundation is the thing!

Built on a *firm foundation,* the Leaning Tower of Pisa has withstood the centuries . . . so, too, health and vigor in infancy and the years ahead depend on a *firm foundation* of optimum nutrition. • BIOLAC, when supplemented with vitamin C, is a valuable infant food whose ample milk proteins constitute an adequate source of all essential amino acids . . . the indispensable *foundation stones* for sound tissues. • BIOLAC closely approximates mother's milk in safety, simplicity, and nutritional value.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION 350 MADISON AVENUE, NEW YORK 17, N. Y.



Biolac

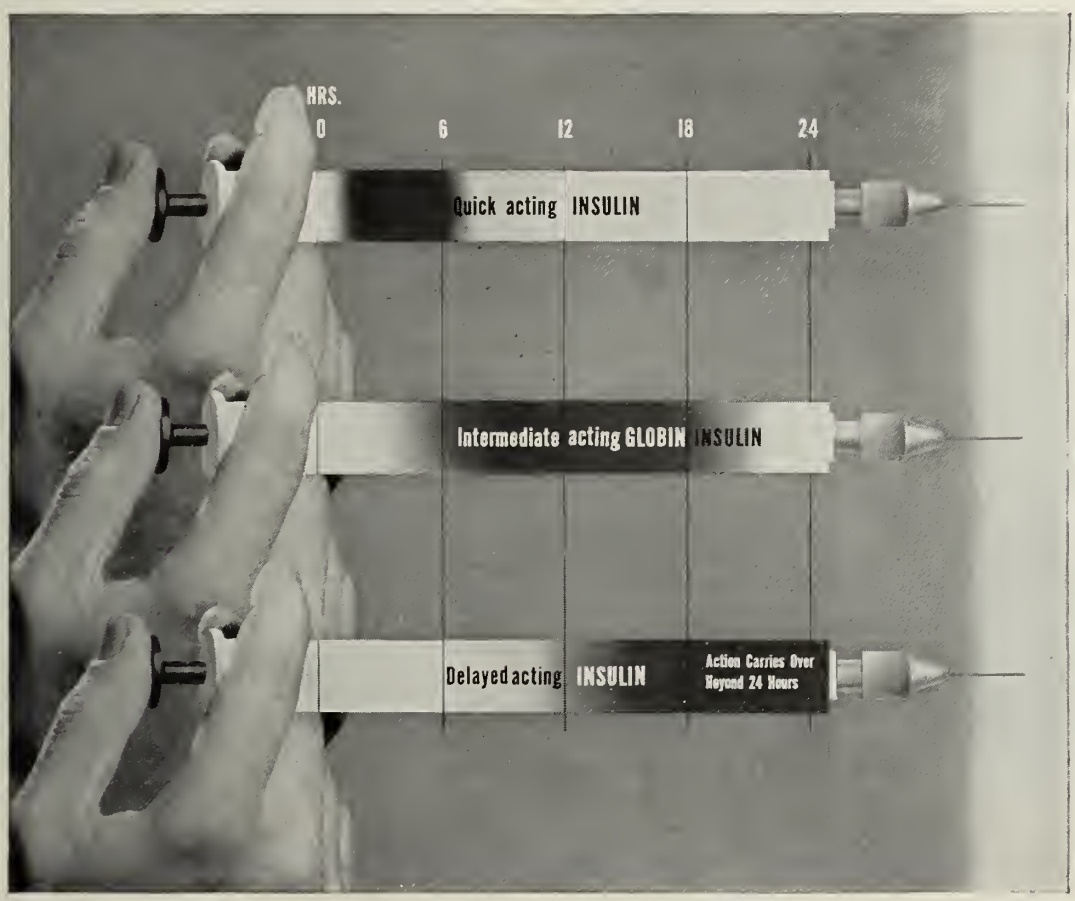
"BABY TALK" FOR A GOOD SQUARE MEAL

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

Biolac is a liquid modified milk, prepared from whole and skim milk with added lactose, and fortified with vitamin B_1, concentrate of vitamins A and D from cod liver oil, and iron citrate. Evaporated, homogenized and sterilized, Biolac is available in 13 fl. oz. cans at all drug stores.

Quickly prepared . . . easily calculated: 1 fl. oz. Biolac to 1½ fl. oz. water per lb. of body weight.

Your 3 choices when treating diabetics...



WHEN A PHYSICIAN decides that a patient needs more than diet to control diabetes, he can now choose from three types of insulin. One is quick-acting and short-lived. Another is slow-acting and prolonged. Intermediate between these, is the third—the new 'Wellcome' Globin Insulin with Zinc. Its action begins with moderate promptness yet is sustained for sixteen or more hours—adequate to cover the period of maximum carbohydrate ingestion. By night, activity is sufficiently diminished to decrease the likelihood of nocturnal reactions. Physicians who consider the many advantages of this new third type of insulin now have another effective method of treating diabetes.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its relative freedom from allergenic properties. Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in the Wellcome Research Laboratories, Tuckahoe, New York. U.S. Patent No. 2,161,198. Available in vials of 10 cc., 80 units in 1 cc., and vials of 10 cc., 40 units in 1 cc. Literature on request. 'Wellcome' trademark registered.

'WELLCOME'
Globin Insulin
WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.



STILL A STANDARD

In appraising the potency and therapeutic value of antiraehitie agents, the norm and standard still remains time-honored, time-proved eod liver oil.

Your patients obtain the wholly-natural vitamins A and D of eod liver oil itself when you prescribe any one of the three palatable, eonvenient dosage forms of

WHITE'S COD LIVER OIL CONCENTRATE

The economy factor of White's Cod Liver Oil Coneentrate is important to many patients—*prophylactic antirachitic dosage for infants still costs less than a penny a day.*

3 Forms for your Preseription Convenience:

LIQUID—for drop dosage to infants

TABLETS—for youngsters and adults

CAPSULES—for larger dosage

Ethieally promoted—not advertised to the laity. White Laboratories, Inc., Pharmaceutieal Manufacturers, Newark 7, N. J.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry



You can lead a horse . . .

and the same is unfortunately true of too many human beings for whom well rounded diets have been prescribed. When long-standing eating habits interfere with conversion, the use of potent, easy to take, and low cost supplementation with reliable Upjohn vitamins can help assure vitamin adequacy.

UPJOHN VITAMINS



FINE PHARMACEUTICALS
SINCE 1886

Upjohn
KALAMAZOO 99, MICHIGAN



Silhouette of Significance

THE PRODUCTION of vitamin products used in modern medical practice involves continual and diversified research. The Lilly Laboratories, besides engaging in pure scientific pursuits and rigid control activities, are especially organized to solve the many perplexing problems of large-scale manufacture. An ever-vigilant scientific staff assures the physician that only the finest materials are used and that finished products are true to label formula. The Lilly Label is profoundly significant. It is the symbol of dependability, a dependability that has made Lilly Vitamin Products the choice of many discriminating physicians. Lilly Vitamin Products are intended for prescription use only and are never advertised to the public.

Eli Lilly and Company, Indianapolis 6, Indiana, U.S.A.

Lilly

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 — FEBRUARY, 1946 — NUMBER 2

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

A ROENTGEN-RAY CLASSIFICATION OF THE PNEUMONIAS WITH SPECIAL REFERENCE TO THE TISSUES INVOLVED

L. R. SANTE, M.D.
ST. LOUIS

The time was when one was satisfied to think of pneumonia as lobar and bronchopnemonia; occurring in typical form during the winter months, December, January and February, but showing wide variations in their clinical and radiologic manifestations throughout the remainder of the year. Still one always thought of them as being the result of the same types of microorganism. Within the last few years these atypical pneumonias have proven to be many different forms, caused by agents previously unsuspected. The subject has been rendered doubly important by the occurrence of the atypical forms of pneumonic involvement in almost epidemic proportion. It has been the observation of many radiologists and clinicians that the occurrence of these atypical pneumonic forms has largely replaced lobar pneumonia as a type of involvement. The only reason that more attention has not been paid to these newly recognized types of pneumonia is that the epidemics throughout the country have been mild, rarely causing death (few autopsies have been recorded). In the fatal cases, the cause of death usually has been due to secondary bacterial infection. One must always bear in mind that the atypical pneumonias associated with the extremely fatal influenzal epidemics of 1918-1919 were due to secondary bacterial infections complicating virus pneumonia. It behooves physicians then to avail themselves of every opportunity to study these atypical pneumonias in order to be prepared for any eventuality.

PURPOSE OF THE STUDY

Roentgenographically the types of pneumonic involvement show such wide variation that they may lead to confusion if the underlying pathologic process is not understood. For this reason, a study was undertaken in which the roentgen picture was correlated with the microscopic findings in the various types of pneumonia in order to formulate, if possible, some classification of the findings by which the roentgenologist and clinician might be better able to recognize the various disease processes. Since the roentgenogram is, in the last analysis, only a reflection of the underlying pathologic process, it necessarily must be viewed in the light of pathologic processes. Several roentgenographic examinations made at intervals during the course of the disease furnish information of value to the roentgenologist and the pathologist alike in studying the progression of the disease process.

ROENTGEN CLASSIFICATION OF THE PNEUMONIAS: CORRELATION WITH PATHOLOGICAL FINDINGS

A. *Lobar Pneumonia.*—(Fig. 1) Lobar pneumonia produces a dense homogeneous shadow closely limited to one or more subdivisions of the lung. It presents a characteristic appearance for each of the various lobes involved.

1. Pneumococcus Type.—This is the ordinary type of lobar pneumonia. Serofibrinous exudate with blood cells fill the alveoli of the involved portion of the lung, explaining the dense homogeneous roentgen appearance; the alveoli themselves are neither distended nor contracted, their air content is merely replaced by cells and serum, explaining the lack of displacement of the mediastinal structures even with massive involvement. As in all other types of bacterial lobar pneumonia the infection seems to be on the surface of the alveolar structures; the alveolar cells do not show signs of inflammation and the interstitial tissue is devoid of any cellular reaction. The bronchi likewise show little if any inflammation and except for some mucus incident to the congestion, are usually open. This would indicate that the cells and serum pour rapidly into the alveolar spaces directly through the alveolar walls since atelectasis does not develop,

Delivered before the Missouri Trudeau Society, September 21, 1945, St. Louis, Mo.

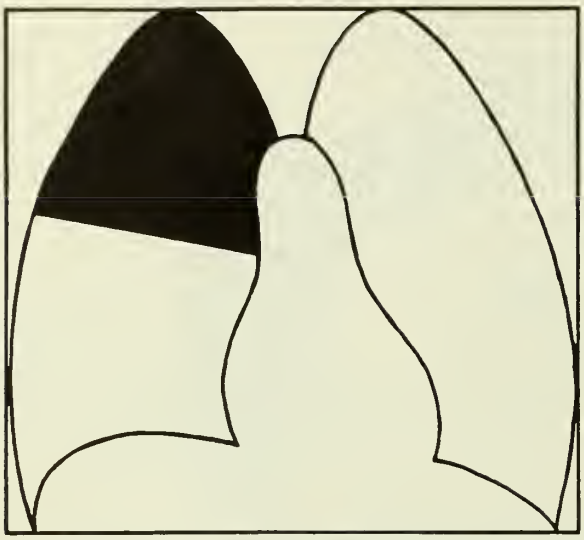


Fig. 1. *Lobar pneumonia* involves primarily the *alveolar spaces.* Serofibrinous exudate literally pours from the capillaries, rapidly replacing the air and filling the alveoli. The alveolar walls do not seem to be in any way affected. Everything indicates that as the alveoli fill with exudate they express the alveolar air back through the open air passages, leaving the volume of the lung exactly the same as before, neither increasing nor decreasing its size. As a result there is no displacement of the heart or other mediastinal structures. The alveolar exudate produces a dense homogeneous shadow characteristic for every lobe or combination of lobes.

leaving free access of air to the uninvolved portion of the lung at all times through the air passages.

2. Staphylococcus Type.—This may take on lobar distribution; it is rare. The microscopic picture is similar to that of pneumococcus pneumonia and the process is probably the same. There is not the same tendency to be limited sharply to a single lobe and the clinical course may be different. The mortality tends to be higher and defervescence is usually by crisis.

3. Caseous Tuberculous Pneumonia.—This is frequently encountered. Microscopically cells and serum pack the alveoli much the same as with pneumococcus pneumonia with the exception that the cells are largely mononuclear lymphocytes and plasma cells. Large areas of caseation necrosis occur within the consolidated area with destruction of lung tissue, probably from the toxic effect of the infection.

At the outstart the roentgen picture may be the same as that of pneumococcus lobar pneumonia. The leukocytosis is not as great, however, nor the temperature so high. As time passes without the development of a crisis the true nature of the disease becomes apparent. Cavity formation occurs within two or three months and tubercle bacilli appear in the sputum.

4. Tularemic Pneumonia.—This may take on massive exudative form. This type usually is associated with the so-called typhoid type, not with the ulcero-glandular type of the disease.

Microscopically the picture is similar to caseous tuberculous pneumonia. Here, also, there are large numbers of mononuclears and plasma cells. Areas of focal necrosis appear throughout the consolidated region, probably from the toxic action of the infection.

5. Friedlander Bacillus Pneumonia; Pseudolobar Stage.—Friedlander bacillus pneumonia takes on a pseudolobar form which soon takes on a roentgen appearance which resembles lobar pneumonia.

Microscopically it often cannot be differentiated from ordinary pneumonia after it has attained the stage of lobar exudation. Identification of the organism is essential for the diagnosis. It goes through four, more or less, distinct stages;

(a) stage of lobular involvement;

(b) coalescence to form stage of pseudolobar distribution (if roentgen examination is made at this stage it may not be possible to differentiate from lobar pneumonia);

(c) rapid extensive ulceration with multiple cavity formation,

(d) final stage of repair with dense fibrosis.

B. *Bronchopneumonia.*—(Fig. 2).

1. This is caused by usual bacterial types of respiratory infection. It starts with respiratory infection and bronchitis; extends through bronchial wall in irregular areas of infiltration giving the effect of a "bunch of grapes" arrangement. Usually it affects lower lobe bronchi; most often bilateral, but it may be unilateral.

Microscopically the picture is quite different from that of lobar pneumonia. The bronchioles are filled with inflammatory cells, mostly polymorphonuclear leukocytes and their walls show indication of an inflammatory process. The surrounding peribronchial tissues show evidence of extension of the inflammatory process from the bronchi. There is irregular involvement of the lung structures about



Fig. 2. *Bronchopneumonia* primarily affects the bronchi and peribronchial structures. It starts with an inflammatory process involving the bronchial mucosa, rapidly extends to the bronchial walls and peribronchial tissue, forming foci of inflammatory exudate which cluster about the bronchi like a bunch of grapes. The inflammatory exudate can be seen filling the bronchi and surrounding tissues. Roentgenographically, irregular areas of infiltration are seen clustering about the lower lobe bronchi.

the bronchioles with some patchy areas of necrosis and atelectasis.

2. Friendlander Bacillus Pneumonia: Four Stages.—

1. bronchopneumonic stage (if the roentgen examination is made at this stage it may rememble bronchopneumonia or even atypical pneumonitis);

2. coalescence to form pseudolobar stage;

3. rapid extensive destruction with multiple abscess formation,

4. ultimate fibrosis and organization if recovery occurs.

Microscopically, during the bronchopneumonic stage, Friedlander bacillus pneumonia shows little which would distinguish it from ordinary bronchopneumonia. Identification of the organism establishes the diagnosis.

C. *Septic Lobular Pneumonia.*—(Fig. 3). Blood-borne bacterial infection lodges in smaller lobules producing irregular blotchy areas of infiltration widely distributed throughout both lung fields, caused by streptococcus, anerobic streptococcus or staphlococcus and is always associated with septicemia.

Microscopically the blood-borne character of the infection is manifested by the wide distribution of the foci of infection without reference to the bronchial structures. Multiple foci of lobular infections are encountered with involvement of all structures of the lung by cellular infiltration, necrosis and small areas of atelectasis.

D. *Glandular or Lymphatic Type of Pneumonitis.* —(Fig. 4). This is inocculated by the lymphatics as lymph node infection and spreads by retrograde extension out into the lung. This is purely roentgenographic observation.

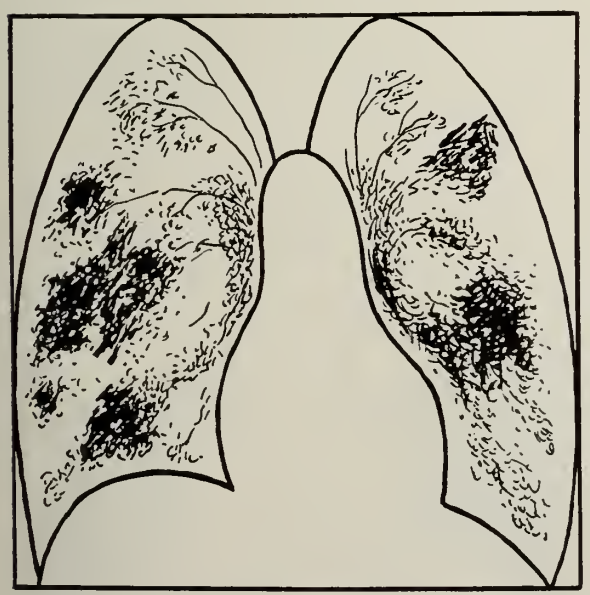


Fig. 3. *Septic lobular pneumonia* gains entrance into the lung by way of the blood vessels, resulting in irregular "blotchy" areas of infiltration distributed about the perivascular spaces without uniformity throughout the lung fields. The condition is always associated with septicemia. Roentgenographically, these "blotchy" areas of infiltration irregularly distributed throughout the lungs with associated septicemia serve to make the diagnosis.

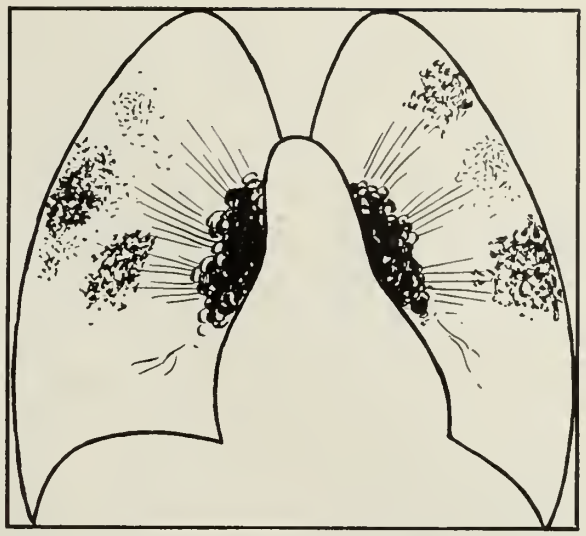


Fig. 4. *Glandular pneumonia* is inoculated into the lung through the lymphatic system. It occurs in certain diseases characterized by general glandular enlargement such as tularemia. In the glandular type of this disease, there is, first of all, marked adenopathy of the hilum nodes, followed very rapidly by the development of fine linear radiations extending like a sunburst outward toward the periphery of the lung. Fine clusters of infiltration then develop at the periphery, usually in the upper portions of the lungs. These coalesce to form small areas of consolidation which, if the process is very severe, may be complicated by the development of multiple small abscess formations. (This must not be confused with the exudate type of homogeneous consolidation seen without adenopathy in tularemia introduced into the lungs by respiratory inoculation.)

1. Tularemic Pneumonia.—There seem to be two forms of tularemic pneumonia.

(a) A primary pneumonic type, previously mentioned, in which massive areas of consolidation occur in the parenchyma of the lung unassociated with any wound or glandular enlargement, and,

(b) A glandular type, occurring in association with the ulcero-glandular type of the disease. In this form there is, at the outstart, pronounced adenopathy of the hilum nodes, similar to glandular enlargement elsewhere in the body. Accentuated lung markings radiate outward from the hilus region into the lung field, possibly due to retrograde lymphatic spread. This is followed by areas of lobular infiltration at the periphery.

Microscopically the glandular type of tularemic pneumonia differs little from the massive type, once it has progressed to alveolar involvement. There is a predominance in this type also of plasma cells and mononucleous.

2. Measles Pneumonia.—Similar hilum glandular enlargement occurs in association with measles followed by lobular pneumonia; perhaps there may be some similarity in the method of involvement.

Microscopically, the pneumonia of measles seems to be distinctly of bronchopneumonic origin, showing bronchial inflammation with irregular areas of extension of the infection into the surrounding structures.

3. Whooping Cough.—Enlargement of the hilum

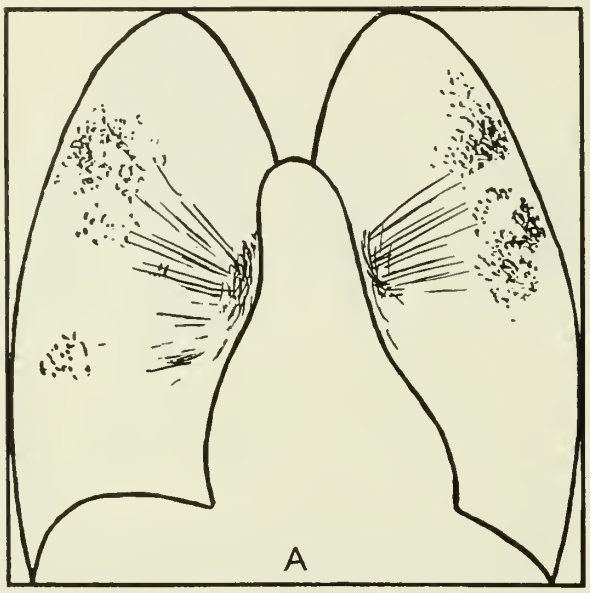


Fig. 5. *Interstitial pneumonitis* is involvement primarily of the interstitial tissue of the lung. Practically all atypical pneumonias, of whatever course, be it virus, rickettseal or protozoal, are of this type. Since the interstitial tissue is heaviest at the hilum regions, the first roentgen manifestation of the infection is by an increase in size and density of the hilum shadows (without adenopathy), and an accentuation of the lung markings radiating outward into the lungs. The next phase is that of infiltration of the parenchymal tissue with coalescense forming small areas of consolidation.

nodes in whooping cough may be similar in nature, followed by lobular pneumonia. The roentgen findings would seem to indicate that the pneumonic processes frequently encountered with whooping cough may be due more to aspiration pneumonia than to the effects of the diseas itself.

E. *Atypical Pneumonias* (Fig. 5).— Interstitial pneumonitis (technically any inflammatory process of the lung may be considered as pneumonia; the term "pneumonitis" has been applied to those infections which primarily affect the interstitial tissues).

1. Virus pneumonitis: (a) at the onset shows hilar enlargement not due to glandular adenopathy but the inflammatory exudate in the interstitial tissues at the root of the lung; accentuated lung markings radiating outward from the hilum region into the lung field, due to the peripheral spread from the interstitial involvement. (b) When fully established, this is followed by areas of fine lobular infiltration in the parenchyma which may coallesce to form large areas of more or less homogeneous consolidation.

The pathologic process seems to be essentially an interstitial pneumonitis; the enlarged hilar shadows and radiations extending out into the lung field are due to the advancement of the interstitial pneumonitis toward the periphery. When the process has reached its fully developed stage there is microscopic evidence of a profound inflammation of the lung tissue itself. The cellular reaction is in the interstitial tissue. The alveolar walls are thickened and their cells are no longer flat but assume a cuboidal form showing many mitotic figures, indication of the profound inflammation going on. The alveolar spaces are filled with gelatinous-appearing exudate almost devoid of inflammatory cells, or they may contain a few mononuclear cells. A thick hyaline membrane appears curled up about the edges of the alveoli; this is probably due to the action of the air on the gelatinous exudate. It is thought that this may play an important part in the production of the intense cyanosis so often seen in these cases.

This was the picture seen in influenzal pneumonia in the influenza epidemics of 1917-1918; a similar picture is produced by psittacosis and other virus infections which have been reported.

(a) Influenzal pneumonitis (epidemic influenza) is a true virus infection in no way connected with the influenza bacillus.

(b) Psittacosis (parrot fever) is a true virus infection.

(c) Mongoose (inoculation) virus (Weir and Horsfall).

(d) Mice (nasal inoculation) virus (Eaton, Beck and Pearson).

(e) Undoubtedly many others.

All produce similar microscopic pictures of interstitial pneumonitis.

2. Rickettsial Pneumonitis.—American Q Fever is the only proven rickettsial pneumonitis caused by Rickettsia Diaplorica, as reported by Davis Cox. Roentgenologically the earliest pulmonary manifestations give the picture of "acute pulmonary congestion and oedema of the lungs," without cardiac enlargement, increase in the hilar shadows and of the lung markings radiating outward into the lungs, but stopping short of the parenchymal structures. At a more advanced stage there are con-

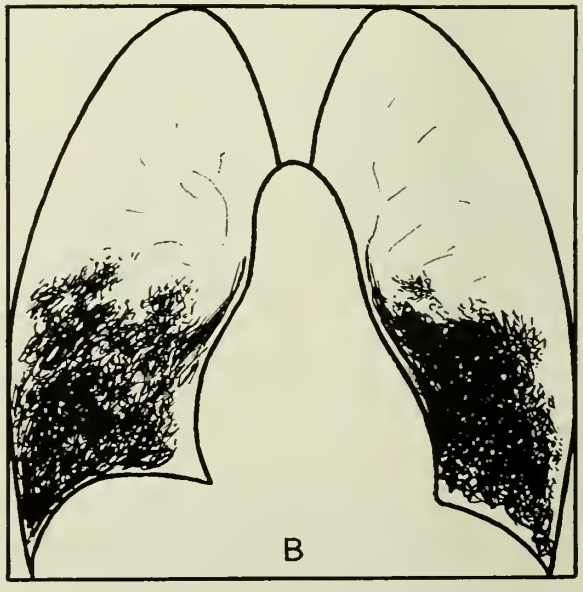


Fig. 6. *Interstitial pneumonitis* may not go through these stages but develop initially as a massive homogeneous consolidation; may it not be possible that this is because of other means of inoculation?

glomerate areas of infiltration crowding upon each other to give the picture of blotchy consolidation of the lung.

Microscopically the picture is similar to virus pneumonitis. There is little exudate in the alveolar spaces; a severe inflammatory reaction seems to affect the alveolar wall and interstitial tissues. The essential difference lies in the detection and identification of the specific microorganism—Rickettsia Diaporica.

3. Protozoal Pneumonitis.—Adult toxoplasmosis (pneumonitis) caused by toxoplasma (as reported by Pinkerton and Henderson) is a protozoan of uncertain status usually classified with Sporozoa; a pneumonitis of specific origin probably but not definitely proven of rickettsial type.

Roentgenologically the condition manifests itself as an acute active congestion with accentuation of the hilum shadows and lung markings radiating outward into the periphery of the lungs. This is followed within a few days by conglomerate areas of infiltration and blotchy consolidation throughout the lungs.

Microscopically the picture is similar to virus infection. There is an intense interstitial involvement with cellular reaction in the interstitial tissue, activation of growh of alveolar cells forming cuboidal epithelium with many mitotic figures. The alveolar cells forming cuboidal epithelium with many mitotic figures. The alveolar spaces are filled with gelatinous exudate with the formation of a hyaline membrane about the edges and there are few inflammatory cells. There are in addition, however, large intracellular clusters of oval microorganisms found throughout the lung tissue and often throughout the other tissues of the body. Intraperitoneal injection of a guinea pig, however, yields the organisms, which in this case are protozoa.

4. Drug Sensitization Pneumonitis.—Just what is the nature of these unusual interstitial reactions; why should they differ from other types of bacterial infection? Cases have been observed which might throw some light on this question.

Microscopic examination was made of the lungs of an individual who died, apparently as a result of sensitization reaction from sulphanilamide. The patient received the drug for acute arthritis and not for any lung involvement. An autopsy Dr. Pinkerton found acute tubular nephritis. The microscopic picture of the lungs showed the presence of a gelatinous exudate in the alveoli with formation of a hyaline membrane similar to that seen in virus pneumonia. Other similar cases have occurred with other sulpha drugs. May not the reaction of the body to virus infection be in some way similar to a sensitization reaction?

5. Undoubtedly Many Others of This Type.—(a) Typhus fever, and (b) Rocky Mountain spotted fever are complicated by bronchopneumonia, but this is merely a complication of the disease and has not been proved to be directly due to rickettsial origin.

6. Lipoid Pneumonitis.—The aspiration into the alveoli of mineral oils used as a vehicle for nose drops results in an inflammatory condition in the lung known as lipoid pneumonitis. The droplets of oil are not absorbed but pass by way of the lymphatics into the interstitial tissue of the lung where they produce an inflammatory reaction. Roentgenographically, there is a shaggy appearance of the hilum shadow with an increase in the lung markings extending outward into the lung.

Microscopically, the droplets of oil present the appearance of large vacuolated areas, but with special osmic acid stain they can be identified as mineral oil globules (Pinkerton).

(More chronic types of involvement from tuberculosis and mycotic infections have been omitted.)

The correct diagnosis as to the precise type of pneumonic involvement is especially important because of the wide variation in methods of treatment of the various types of pneumonia. This outline of classification of the pneumonias has been helpful in this regard. It must be stressed, however, that in this field as well as in all other lung conditions, it is hazardous to make a diagnosis from the roentgenogram alone; the clinical symptoms must be correlated with the roentgen findings.

634 N. Grand Blvd.

VOLVULUS OF THE STOMACH

REPORT OF A CASE

NICHOLAS A. SCHNEIDER, M.D.
AND
BURTON BOHANNON, M.D.
ST. LOUIS

Volvulus of the stomach is a comparatively rare disease. The condition was described first by Berti[12] in 1866 in an autopsy which he reported. Berg[12] was the first surgeon to operate on a case of volvulus of the stomach in 1895. In 1907, Tuffier[2] described the operative findings in a case of chronic, partial volvulus of the stomach. In 1920, Rosselet[2] reported the roentgen ray findings of a case of chronic gastric volvulus. He was the first investigator to make such a report. In 1935, Anangnostidis[8] reviewed the world's literature on this subject and found a record of 116 cases of volvulus of the stomach. In 1942, Dr. C. A. W. Zimmermann,[1] of Cape Girardeau, Missouri, reported the autopsy findings of a patient under his care who died of gastric volvulus.

The symptoms described in the acute cases of volvulus of the stomach are about as follow:

1. Severe pain of sudden onset in the upper part of the abdomen with nausea and vomiting, usually coming on some time from six to fourteen hours after eating a heavy meal.

2. Feeling of fulness in the abdomen.

From the Department of Surgery, St. Anthony's Hospital, St. Louis.
Read before the St. Louis Surgical Society, November 21, 1945.

3. Inability to retain food or fluids after the onset of pain.

4. In some cases, shock.

5. In some cases, death within from twenty-four to seventy-two hours.

In the chronic or intermittent cases the symptoms are about the same as in the acute cases except that they disappear in from two to ten hours. The patient reported upon in this paper differed from those described by others in that she had very little pain at any time.

Singleton has worked out a classification for the various types of volvulus of the stomach. His classification seems reasonably practical and is used by some surgeons who have reported cases. It is as follows:

1. Axis of rotation:

a. organo-axial if the stomach turns on the relatively fixed points of the esophageal and duodenal openings;

b. mesenterio-axial if the stomach turns on the line of its mesenteric attachment.

2. Degree of rotation—total or partial.

3. Direction of rotation—anterior or posterior.

4. Secondary—if the volvulus is associated with some other condition as stomach herniated through diaphragm, presence of gastric ulcer, adhesions. Idiopathic or primary if no other pathologic condition is present except the volvulus.

5. The volvulus is acute if the symptoms persist and the patient becomes progressively worse; or chronic or intermittent if the symptoms persist for a while and then gradually subside, with gradual disappearance of pain, nausea and vomiting. This condition repeats itself at intervals. According to the literature which we reviewed, the secondary, partial and chronic cases, especially those associated with a stomach herniated through the diaphragm, are more common than the primary acute cases.

The case being presented may be classified as an acute, idiopathic, partial, anterior, mesenterio-axial type of gastric volvulus.

A preoperative diagnosis of intestinal obstruction had been made in almost all patients that were operated on in the cases reviewed by us. A considerable number of the patients reported on died either before they were operated on or shortly after the operation. The mortality rate seemed to be about 50 per cent.

The ages of the patients varied from 8 to 78 years. Our patient was the oldest of those reviewed by us. In the youngest case, that of a girl 8 years old, operation showed that the stomach had perforated as well as having undergone volvulus. This patient died. The gastric volvulus occurs in robust as well as lean people. It seems to be more common in thin women who are past 50 years of age.

The operative findings in most of the cases reviewed showed the stomach to be distended, tense and of bluish color. Aspiration of these cases gave some gas and dark red, acrid fluid, the amount of fluid aspirated varying; the greatest amount of fluid we found reported was 82 ounces. We aspirated almost 5 liters from our patient, about 150 ounces. The fluid was of grayish pearl color and very thick, so thick that it would not flow through a large trochar. No food particles could be identified in the fluid.

Practically no mention is made in the literature on the thickness of the wall of the stomach. The wall of the stomach in our case was about 2 cm. thick, so thick that we wondered whether or not the patient might have linitis plastica.

As to the operative treatment of gastric volvulus; in most of the cases operated on, the stomach was aspirated before the volvulus was reduced. Most surgeons state that the fluid obtained by aspiration was reddish-brown in color, acrid and contained some food particles.

In some cases gastrostomy was done, in some gastropexy and in some cases nothing was done except to empty the stomach by aspiration and reduce the volvulus. A considerable number of those who did gastropexies state that they did them according to the Rovsing method.

REPORT OF CASE

Mrs. M. McN., aged 79, stated that on the afternoon of August 3, 1945, she became nauseated and began to vomit. She experienced no pain. She continued to be nauseated all that afternoon and night and everything she ate or drank was vomited. She called a physician, but therapy gave no relief. After three days of inability to eat or drink she was hospitalized. Roentgenograms were made and showed that the lower end of the esophagus was obstructed. After remaining in this hospital for several days she was advised to be taken to a larger hospital where better facilities would be available. She returned to St. Louis by ambulance and train and then remained at home for two more days and was taken to St. Anthony's Hospital on August 13, 1945. She had been unable to eat or drink anything during all this time. She stated that she had very little pain and did not complain of abdominal distention.

Past Health.—She had had no serious illness at any time and no operations. Menstrual history and menopause had been normal.

Family History.—Four children were living and four were dead, having died in infancy. The husband was dead of unknown cause. Two sisters and one brother were dead. One brother was living but ill of heart disease. Her father died at 75, the mother at 75, the causes of their deaths not known.

Physical Examination.—The patient was a white, elderly woman, of rather thin physique and in apparent discomfort. She was rational, conscious and cooperative.

Head.—Hair was gray, ears were normal. Eyes showed arcus senilis, slightly ectropion of lower lids. Pupils reacted to light and accommodation. Consensual reflex was present.

Neck.—There were no masses; thyroid gland was normal.

Chest.—Breathing was rapid and shallow; chest was emphysematous in type, breathing regular. Breasts were atrophied. Lungs showed slight hyperresonance

throughout, otherwise were normal. The heart was enlarged slightly on percussion, regular, sounds not accentuated; no murmurs. Rate was 100 and blood pressure was 100/70.

Abdomen.—The abdomen was somewhat distended and was dome shaped and tender on palpation. Muscles were somewhat rigid, tense on pressure and painful. The liver, spleen and kidneys were not palpable. The abdomen was dull on percussion.

No pelvic examination was made. The skin was normal. Reflexes were not pathologic and extremities were grossly normal.

Laboratory Examination.—White blood cells were 12,100 with 8 stab, 75 segments, 13 lymphocytes, 4 mononuclear lymphocytes. Red blood cells were 4,180,000; hemoglobin 12/77 per cent, color index 9. Blood sugar was 140 mg. per cent, urea nitrogen 36 mg. per cent, nonprotein nitrogen 60 mg. per cent. Urine was straw colored and cloudy; specific gravity was 1.016, acid, protein was 4 plus, sugar 2 plus, white blood cells 2 plus and no red blood cells, no casts nor crystals and epithelial cells 1 plus.

Roentgen ray report on September 17 (radiographic and graphic) from examination of the esophagus and colon showed there was complete obstruction at the lower end of the esophagus, apparently mechanical rather than from intrinsic disease although carcinoma could not be entirely excluded. With barium enema there seemed to be a partial obstruction in the middle third of the transverse colon associated with a possible internal hernia or hiatus hernia. The films confirm the fluoroscopic observation.

I* was asked to see the patient on the afternoon of August 17 about 4:00 p. m. She was complaining of discomfort in the abdomen and tightness. She stated that she had been nauseated and had vomited off and on for the last two weeks and that she had been unable to eat or drink anything during that time.

Examination showed the abdomen to be distended greatly, tender, rigid and dull to percussion. The left side seemed to be swollen more than the right.

A diagnosis of obstructed esophagus together with intestinal obstruction was made, probably due to edematous omentum and colon which had become impacted in the hiatus of the diaphragm and was causing pressure on the esophagus. Immediate operation was advised.

On August 17 at 5:00 p. m., under ether anesthesia, the abdomen was opened through a left paramedian incision. A moderate amount of pink, thin fluid was found in the peritoneal cavity. On exploration a large rounded mass which filled practically the entire abdominal cavity was found. On more careful examination the mass was found to be stomach which had undergone volvulus. The mass could not be moved. The left part of the stomach together with the splenic flexure of the colon, spleen and tail of the pancreas had been displaced from their usual locations and were found to be located in the midline of the abdomen under the diaphragm. About three inches of the esophagus had come through the diaphragm into the peritoneal cavity. The distal part of the transverse colon and the proximal part of the splenic flexure with some omentum were located in the hiatus of the diaphragm but were not impacted there. The esophageal and duodenal ends of the stomach had been twisted and were edematous. The gallbladder was distended but contained no stones. The pelvis was normal. The remainder of the abdominal organs were normal.

In view of the fact that the stomach could not be moved in its distended condition an attempt was made to empty it by aspiration. A rather large trochar was used for the aspiration but nothing came through it. An incision was then made through the anterior wall of the stomach and a suction tube was placed through the opening. Thick mucoid material was aspirated with difficulty. The amount removed was about 5 liters. The material removed was gray in color, not blood tinged and contained no food particles. The wall of the stomach was 2 cm. thick due to edema. The opening in the stomach was closed by two layers of sutures. The volvulus was then reduced.

The question which then presented itself was this: how was the stomach to be emptied of the thick mucoid material for the first four or five days after the operation? It was felt certain that the stomach would continue to form the mucus for at least three or four days, or until the edema in the stomach wall would have had time to subside and the stomach regain its peristalsis. It was felt that the Wangensteen nasal suction would not help. Should gastrostomy be done, should jejunostomy with tube passing into the stomach through the duodenum be done or should a chance be taken on keeping the stomach empty by repeated lavages with a large stomach tube? Experience with gastrostomies in old and debilitated patients had been bad, about like that reported by Karl A. Meyer[13] recently. It was decided not to do a gastrostomy. It was thought that it would be impossible to use a large enough tube to cope with the mucus if a jejunostomy were done. Therefore, after deciding not to do a gastrostomy, jejunostomy or gastropexy, the abdomen was closed with a rubber dam drain through the lower part of the wound after having placed 5 gm. of sulfathiazole into the peritoneal cavity.

As soon as convenient after the operation, a nasal tube was placed into the stomach and suction begun. But, as was expected, it was not effective in keeping the stomach from becoming distended. The stomach had to be lavaged with a large tube about twenty hours after the operation. It was lavaged again on the second day after the operation.

On the third day an intern suggested inserting a Miller-Abbott tube into the stomach and putting suction on it. This was done and the stomach was kept empty by it. The Miller-Abbott tube was left in the stomach for three days and then was removed. After that the patient was able to retain liquid and soft diet.

The patient made an uneventful recovery and was discharged from the hospital on September 5, 1945. She received intravenous glucose, amino acids and citrated whole blood transfusions as part of the preoperative and postoperative care.

The reason this patient did not die, in our opinion, is that she had a partial volvulus which did not entirely shut off the circulation to the stomach.

3318 S. Grand Blvd.
2602 S. Grand Blvd.

*Nicholas A. Schneider, M.D.

BIBLIOGRAPHY

1. Zimmermann, C. A. W.: J. Missouri M. A. **39**:139 (May) 1942.

2. Singleton, Arthur C.: Radiology **34** (January) 1940.

3. Gharpure, K. C.: Brit. J. Surg. **26** (January) 1939.

4. Gabor, Marcell E.: Am. J. Surg. **50** (October) 1940.

5. Buchanan, James: Brit. J. Surg. **18**:99-112 (July) 1930.

6. Vorhaus, Martin G., and Stetten, DeWitt: Gastro-enterol. **2** (May) 1944.

7. Harding, E. W., and Hicks, Freg G.: J. Canad. Med. Ser. **1** (January) 1944.

8. Bowen, Arthur: Am. J. Digest. Dis. & Nutrition **3**:923-928 (February) 1937.

9. Weeder, Dana: Ann. Surg. (September) 1935.

10. Schatzki, R., and Simeone, F. A.: Am. J. Digest. Dis. **7** (May) 1940.

11. Science, Philip: Brit. Med. J. (September) 1938.

12. Morrison, Wayland A.: Surg. Gynec. & Obst. **52**:871-874 (April) 1931.

13. Meyer, Karl, and Kozoll, Donald D.: Surg. Gynec. & Obst. **81** (August) 1945.

CASE REPORTS OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 85

PRESENTATION OF CASE

M. S., a single, 20 year old, white male, entered Barnes Hospital on the Surgical Service on October 26 and died on November 6, 1944.

Chief Complaint.—Pain in the back.

Family History.—Irrelevant.

Past History.—The patient had been well and strong. He had had childhood diseases without complications, frequent tonsillitis until a tonsillectomy had been performed, and one attack of "flu" for which he was in bed for several days. He had not been subject to respiratory infections. He had been a clerk for several years until he entered the Navy in 1942.

Present Illness.—After the patient had served in the Navy for one year, a routine physical examination was made and a shadow was observed on a film of the chest. After this, he remained in a Naval hospital for several months. During the first month there, he had no symptoms. During the second month he experienced increasing fatigue. On discharge, in September, 1943, it was suggested to him that he had tuberculosis but he was given no definite diagnosis. Fatigue continued and a pain gradually appeared between the shoulder blades. It was influenced definitely by movement and position, relieved by a pillow between the shoulders at night, and improved during mild exercise. At no time was the pain intense. One week before admission this pain was felt along the left sternal border over which there was some tenderness. He entered Barnes hospital for diagnosis.

Physical Examination.—Temperature was 37 C., pulse 82, respirations 14 and blood pressure 128/80. The patient did not appear to be ill. He was well developed. The skin showed no abnormalities. The pupils reacted normally and the eyegrounds were essentially normal. The upper respiratory tract was normal. There were no enlarged lymph nodes in the neck or axillae and the trachea was in the midline. There was no abnormality of the thorax. Examination of the lungs showed them to be normal. The heart was not enlarged. The rhythm was regular; there were no murmurs or adventitious sounds. No abnormalities were noted in the abdomen. There was slight tenderness over the sixth, seventh and eighth dorsal vertebrae. Neurologic examination was essentially normal.

Laboratory Findings.—Blood count: red cells 5,370,000, hemoglobin 15 gms., white cells 7,050, differential count: basophils 1 per cent, "stab" forms 3 per cent, segmented forms 43 per cent, lymphocytes 28 per cent, monocytes 5 per cent; bleeding time 1.25 minutes; clotting time 3.25 minutes. Blood nonprotein nitrogen: 21 mgs. per cent; blood sugar: 85 mgs. per cent. Blood Kahn reaction was negative. Vital capacity: 3,300 cc. Electrocardiogram showed right axis deviation. Roentgenograms of the chest: "There is a mediastinal mass extending into the right lung field a distance of 3 cm. from the midline. It has a smooth outline. It is subject to movement as shown by double exposure contour. There is extreme calcification of the right hilus and calcification in the parenchyma of the right lung in a small amount. A faintly marked soft tissue shadow is noted through the heart shadow opposite the anterior end of the ninth rib on the left. The lateral view of the chest shows the dorsal vertebrae to be within normal limits. The center of the mediastinal shadow is about at the midline. Extreme calcification is noted. Kymogram shows an absence of any type of movement in the mediastinal shadow. X-ray diagnosis: Mediastinal tumor with tracheal attachment. Substernal thyroid. Pulmonary tuberculosis, old."

Course in Hospital.—Two days after admission the patient was operated upon. An incision was made along the course of the fifth rib on the right and the rib was removed. On opening the pleural cavity, a large, yellow, egg-shaped tumor was noted in the right upper middle mediastinum, lying immediately above and somewhat adherent to the major azygos vein. The vein was freed by dissection with considerable difficulty due to dense adhesions between it and two small cystic structures immediately adherent to the vein. The tumor was dissected out. It contained a thick, creamy material, which was injected into guinea pigs but which caused no gross lesions on the death of the animals. Pathologic examination of the cyst wall showed merely chronic inflammation. Three days later the patient suddenly developed difficulty in breathing, with short, gasping respirations. The respiratory rate was 40, pulse 160, temperature 39.2 C., and blood pressure 90/64. Cyanosis was present. The trachea was shifted markedly to the left. A thoracentesis done in the posterior axillary line yielded 730 cc. of moderately bloody fluid. The trachea then shifted back to the midline, and the patient felt somewhat better. Dyspnea continued and later in the day another thoracentesis was done and 400 cc. of moderately bloody fluid and 2,000 cc. of air were removed. At that time the white blood cell count had risen to 18,450 and the hematocrit was 48 per cent. On culture of the pleural fluid, beta hemolytic streptococci were recovered. Thoracentesis was repeated several hours later and 1,300 cc. of air and 500 cc. of fluid removed. Oxygen was administered and therapy with sulfadiazine and penicillin was begun. The following day a cellulitis developed in the right flank and spread. A closed tube was inserted into the pleura with the release of a considerable quantity of turbid fluid and air. Following this procedure the patient became symptomatically better. However, the blood nonprotein nitrogen gradually rose to 100 mgs. per cent. The urine had a pH of 5.5, showed a

few granular casts and revealed no albumin or red blood cells. An electrocardiogram, which on admission showed merely sinus tachycardia, now also showed right axis deviation. The patient developed marked peripheral edema and many moist rales appeared in the left lung. The cellulitis spread over a wide area. A sulfadiazine level of 16.2 mgs. per cent was obtained and the drug was discontinued. Penicillin dosage was increased. The hematocrit remained high, 55 per cent, in spite of transfusions of blood and plasma. Although the temperature fell, cellulitis continued to spread. The patient died suddenly.

CLINICAL DISCUSSION

DR. HARRY ALEXANDER: In the evaluation of this case there are two questions of primary importance: first, the nature of the mediastinal tumor; second, what happened to this patient postoperatively. We know that the tumor was high in the midmediastinum, that it extended into the right lung field, that it moved, that it was attached to the major azygos vein and that it contained a thick fluid. The location of such tumors can be of aid in making the diagnosis. May we eliminate tumors of the anterior mediastinum, Dr. Poppe, and, if so, what are the more common types of such tumors?

DR. KARL POPPE: Teratomas occur particularly in the anterior mediastinum.

DR. ALEXANDER: What about a substernal thyroid?

DR. POPPE: They are not ordinarily seen in the true anterior mediastinum.

DR. ALEXANDER: What tumors occur in the posterior mediastinum?

DR. POPPE: Most common are those of neurogenic origin such as neurofibroma and ganglioneuroma. There is also the possibility of chondroma.

DR. ALEXANDER: Dr. Goldman, what tumors occur in the middle mediastinum?

DR. ALFRED GOLDMAN: Tumors of lymphoid origin are common. This tumor is described as cystic, but the centers of some solid tumors do break down to form pseudocysts. The description seems to indicate that this one was truly cystic.

DR. ALEXANDER: Of what significance are the large foci of calcification in the lungs?

DR. GOLDMAN: They are old healed tuberculous calcifications. I believe them to be coincidental, although they are certainly larger and more numerous than usually observed.

DR. ALEXANDER: Could this cyst have been a large tuberculous lymph node with a necrotic center?

DR. GOLDMAN: That is a possibility, although it had not occurred to me in view of the negative guinea pig test following inoculation of the fluid in the cyst.

DR. ALEXANDER: Would you expect such a tuberculosis to express itself clinically?

DR. GOLDMAN: Yes, such a patient should have a fever. I think this tumor is most likely some sort of a mediastinal cyst. They are admittedly uncommon, but of two major types. First, there are the developmental cysts such as teratomas, and those derived from the bronchi, lymph vessels, gastrointestinal tract or the pericardium; and secondly, pseudocysts which are of inflammatory origin.

DR. POPPE: The material in this cyst was yellow in color and seemed to be caseous as in a dermoid cyst. The cyst itself was somewhat fluctuant but surrounded by dense adhesions. There were two other similar and smaller cysts on the wall of the azygos vein.

DR. ALEXANDER: The pathologist's report on the wall of this cyst was chronic inflammation. What type of cyst is consistent with this report?

DR. POPPE: Such cysts are not ordinarily found. Bacterial infections would give a more acute inflammation.

DR. CARL V. MOORE: Dr. Poppe, was there any evidence that this structure may have been attached to the trachea or to the esophagus?

DR. POPPE: There were no direct connections but many dense adhesions which bound it to the trachea.

DR. GOLDMAN: This could have been a cyst, the epithelial lining of which had been destroyed due to distention and other changes of secondary infection.

DR. JULIUS JENSEN: The differential blood count is not mentioned, but I wonder whether there might have been an eosinophilia. An echinococcus cyst should be considered.

DR. ALEXANDER: Yes, that is important because this patient had been a sailor and we do not know how extensively he might have traveled.

In summary, it seems that we are not going to be able to come to a definite conclusion concerning the nature of this cyst. Turning to the second feature of the case, two or three days after the operation some accident seems to have occurred and there appeared air and fluid in the pleural cavity. The patient's blood pressure began to rise and there was evidence of a spreading infection. Dr. Goldman, what do you think might have happened, and of what significance was the beta hemolytic streptococcus which was recovered?

DR. GOLDMAN: A tear in the lung which established a fistula would explain the persistent air in the cavity as well as the blood and fluid. The significance of the streptococcus is not clear. Perhaps it came from within the cyst.

DR. ALEXANDER: Could a beta hemolytic streptococcus form enough gas by fermentation to account for that observed?

DR. CARL HARFORD: Although most streptococci form some gas, I think it very unlikely that so much could be produced in this manner.

DR. ALEXANDER: Although the streptococcus was of unknown origin, it was apparently a virulent organism. We are told that cellulitis appeared about the drainage tube in the operative wound and continued to spread despite vigorous chemotherapy until the death of the patient. I would like

a more detailed description of the rash which is said to have appeared.

Dr. Llewellyn Sale, Jr.: It might best be described as identical with the rash in scarlet fever. It was intense, blanched on pressure, began in the region of the cellulitis and spread over almost the entire body and extremities.

Dr. W. Barry Wood, Jr.: It was an improper distribution for a typical rash of scarlet fever, but any given area was of identical appearance with such a rash.

Dr. Poppe: Yes, and furthermore, it spread onto the face and left a circumoral pallor. The cellulitis began around the wound through which the thorax was aspirated, but it soon disappeared and was replaced by this erythematous rash.

Dr. Alexander: Then the statement concerning the spreading of the cellulitis is incorrect. However, I am not clear as to whether this spreading rash might have indicated a disseminating infection.

Dr. Wood: On the one occasion on which I saw the patient, it looked like a rapidly spreading local cellulitis.

Dr. Poppe: The rash later became so diffuse that I thought it, as well as the renal complications, to be of toxic origin.

Dr. Alexander: The patient did develop an elevated nonprotein nitrogen on the sixth postoperative day accompanied by an elevation of systolic blood pressure to 140 or 160 mm. of mercury and both these elevations persisted. He also had red blood cells, casts and albumin in the urine. How do you explain that, Dr. Olmsted?

Dr. William Olmsted: I do not believe it was a nephritis, but rather a manifestation of prerenal azotemia because of the presence of the infection, the septicemia which was undoubtedly present and the evidences of hemoconcentration. It would have been desirable to have known the level of blood chlorides in attempting to evaluate these findings.

Dr. Alexander: The patient developed marked peripheral edema which occurred at first in the legs but then became generalized.

Dr. Poppe: There was also a distinct oliguria, and the edema became generalized after we forced fluids in an attempt to correct the oliguria.

Dr. Olmsted: Such massive edema cannot be explained readily on the basis of the amount of fluid ingested. It would be unusual, but it could have been due to low chloride and possibly low proteins.

Dr. Edward Massie: A toxic nephrosis such as is sometimes seen in scarlet fever could explain all these findings. The effects of such a nephrosis are caused by damage to the renal tubules. I am impressed by the similarity of this case to unusual cases of scarlet fever I have seen recently.

Dr. Wood: When I saw the patient, I thought the renal disease was due to sulfonamides. There are three possibilities. It could have been of a prerenal nature, an acute glomerulonephritis, or a sulfonamide nephrosis. The oliguria and edema, despite the administration of fluid, suggest primary renal disease rather than a prerenal phenomenon. The red cells in the urine and slight hypertension are indicative of a streptococcal infection, but the fact that the blood pressure was not clearly elevated and subsequent urine examinations were not remarkable seems more compatible with sulfonamide nephrosis to me. The time relations are admittedly more in favor of the streptococcus origin.

Dr. Massie: I would like to suggest that the renal disease could be on a basis of allergic or toxic damage to the tubules rather than lesions of the glomeruli.

Dr. Wood: Patients with scarlet fever, as far as I know, develop either prerenal azotemia or acute glomerulonephritis.

Dr. Massie: But in some patients with scarlet fever there is a persistent low urinary specific gravity with no abnormalities in the other urinary elements and, finally, complete recovery.

Dr. Alexander: I am still impressed by the rapid course of this disease.

Dr. Carl Moore: I think that it must be remembered that this patient had three transfusions of whole blood on the operating table. A hemolytic transfusion reaction must be considered. Such patients often die on about the ninth day as did this man but, on the other hand, we are not told that there was any evidence of fever, jaundice or hemoglobinuria.

Dr. Robert Glaser: I think it is important to know whether or not the patient had ever received sulfonamides before.

Dr. Alexander: Yes, but we have no information on that subject.

In summary, then, we cannot arrive at a definite conclusion concerning the lesion in the kidney. The course of the disease was extremely rapid for death to be due to renal failure and I, therefore, am inclined to regard a spreading infection as of primary importance. I am impressed by Dr. Massie's remarks concerning the temporary renal shutdown with tubular lesions in scarlet fever and think the urinary findings in this case are of only secondary importance.

Dr. Olmsted: I would like to point out that Dr. Massie's idea was perhaps exactly what we mean by prerenal azotemia, for when this phenomenon occurs in other diseases as, for instance, in diabetic coma, there is always some minor lesion of the tubules.

ANATOMIC DIAGNOSES*

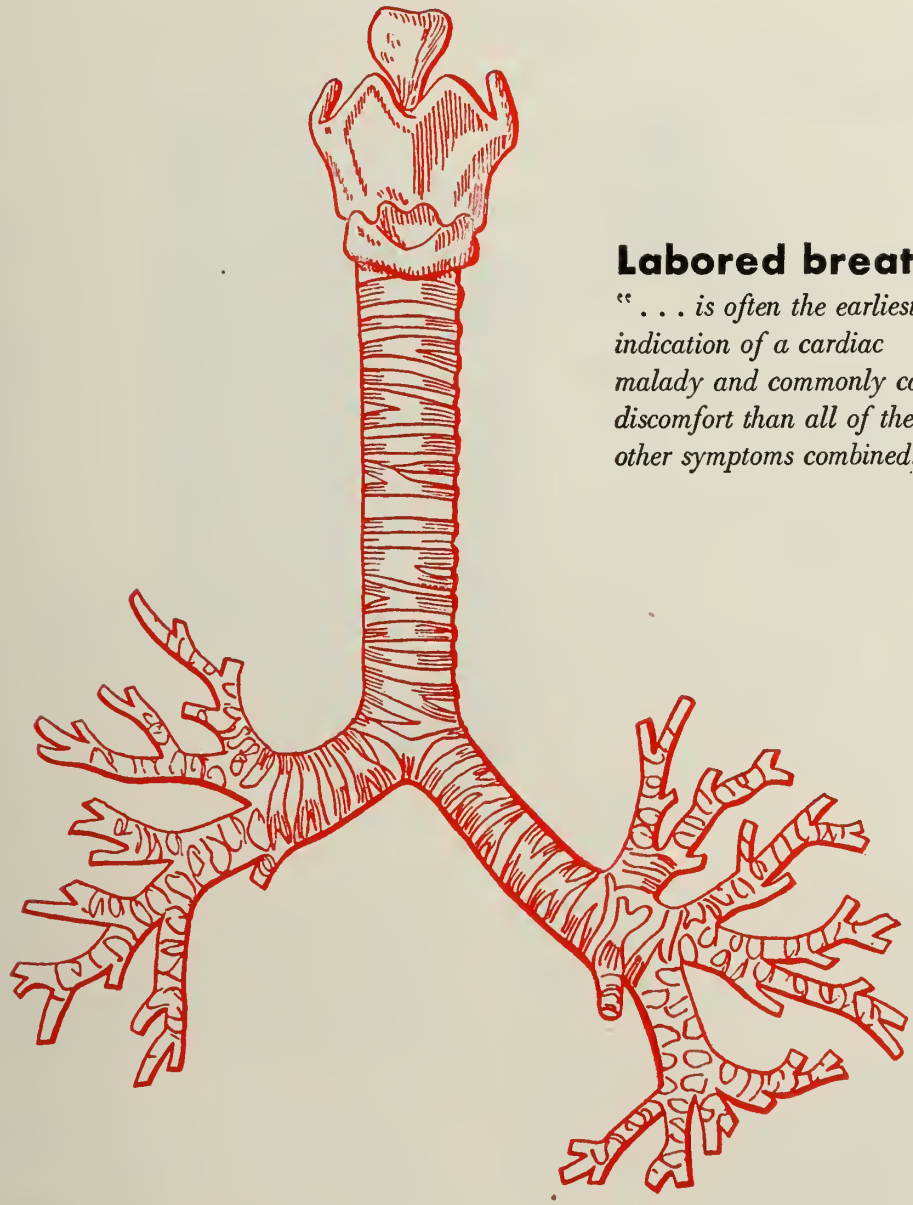
Partially healed wound of the chest (history of operation for removal of posterior mediastinal tumor, 8 days).

Empyema of the right pleural cavity, 300 cc. (history of culture of beta hemolytic streptococci and treatment with penicillin and sulfadiazine, 5 days).

Interstitial bronchopneumonia of all lobes of lungs.

Acute nonsuppurative interstitial nephritis.

* This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.



Labored breathing...

"... is often the earliest indication of a cardiac malady and commonly causes more discomfort than all of the other symptoms combined."[1]

AMINOPHYLLIN-SEARLE, by relaxing the bronchial musculature, encouraging resumption of a more normal type of respiration, reduces the load placed on the heart and helps prevent further damage.

Aminophyllin-Searle is indicated in paroxysmal dyspnea, Cheyne-Stokes respiration, bronchial asthma (particularly in epinephrine-fast cases) and in selected cardiac cases.

Aminophyllin-Searle contains at least 80% anhydrous theophyllin. G. D. Searle & Co., Chicago 80, Illinois.

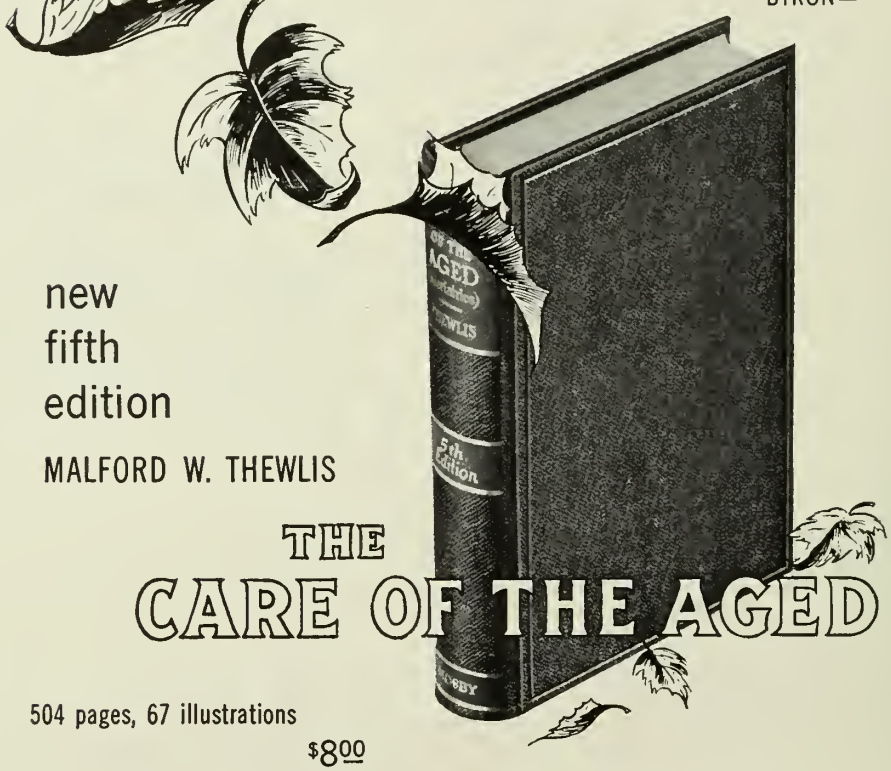
ACCEPTED AMERICAN MEDICAL ASSN.

1. Harrison, T. R.: Cardiac Dyspnea, Western J. Surg., 52:407 (Oct.) 1944.

SEARLE *Research in the Service of Medicine*

"My days are in the yellow leaf..."

BYRON—



new
fifth
edition

MALFORD W. THEWLIS

THE CARE OF THE AGED

504 pages, 67 illustrations

$8.00

- This new fifth edition CARE OF THE AGED has been brought completely abreast of contemporary developments. Specific changes and additions are listed as follows:

- Geratology, geriatrics in the war, stress and longevity, prevention of coronary thrombosis in physicians, congestive heart failure, venous pressure, home treatment of pneumonia.

- Sulfonamides and antibiotic substances, gastritis, esophagitis, gastrophotography, kidneys during infection, mental hygiene, logotherapy, psychotherapy, hypothyroidism as a cause of symptoms of peripheral vascular disease.

- A new chapter on Anesthesia has been added, together with new statistical charts.

THE C. V. MOSBY COMPANY
3207 Washington Blvd.
St. Louis 3, Mo.

MOJ 2/46

Gentlemen: Send me immediately a copy of the new fifth edition

THEWLIS' CARE OF THE AGED, $8.00

....Attached is my check. ....Charge my account.

Dr. .....

Address .....

PATHOLOGIC DISCUSSION

DR. MARGARET SMITH: The fibrous and caseocalcified lesions in the bronchopulmonary and tracheobronchial nodes were those of a first infection type of tuberculosis. However, the involved nodes were unusually large. Sections of the nodes found at autopsy and of the tissue removed at operation were alike; there was dense fibrous tissue surrounding the caseous material which is partially calcified. In the tissue removed at operation, there was only a small amount of calcification. In the sections, both of the nodes removed at autopsy and of the tissue removed at operation, there was evidence of slight activity, a narrow zone of epithelioid cells about the caseocalcified material was seen at some points, and an occasional giant cell.

A few Gram-positive cocci were still present in the sections of the lungs, free in the edematous interlobular septa and in large phagocytic cells in some alveoli, but almost no polymorphonuclear infiltration remained. The reaction in the kidneys, a nonsuppurative interstitial nephritis and advanced cloudy swelling of the epithelium of the convoluted tubules, and also the interstitial infiltration of mononuclear cells in the lungs, are changes found in scarlet fever. This had been considered an instance of surgical scarlet fever; however, I cannot exclude the possibility that the changes in the kidneys and in the lungs might have been the reaction to the sulfadiazine since both an interstitial nephritis and an interstitial pneumonia with an infiltration of the same type of mononuclear cells does occur following treatment with sulfonamides. Such a reaction has been interpreted as the result of sensitization to the drug. The clinical manifestations which might have been considered a reaction to sulfadiazine or to the infection itself, occurred very early in the course of treatment, but it is not known whether the patient had received sulfadiazine on a previous occasion.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 2. February, 1946.

A REVIEW FOR PHYSICIANS

The Fourteenth Annual Report of the Tuberculosis Committee of the American Student Health Association records the success of measures to control tuberculosis practiced by progressive institutions of learning in all parts of the country. The results must not be measured solely by the number of cases discovered. In the age group concerned this will always be small as compared to the general population. The search for cases, however, affords a unique opportunity for health education of both faculty and students. The practical demonstration of how to prevent tuberculosis will influence habits of thought and action long after textbook lessons are forgotten. This should make for closer cooperation between patient and physician the country over.

TUBERCULOSIS AMONG COLLEGE STUDENTS

During the past three years there have been many factors which have interfered with the normal functioning of college health services. Yet the number of institutions having to discontinue their tuberculosis programs has been less than was anticipated. The Committee is confident that as our college enrollments return to normal and adequate medical personnel becomes available, we shall witness substantial progress in college health activities.

Many colleges are now planning for expansion which will provide more adequate health programs. The need for this may be better understood from the fact that less than half of the 886 colleges queried replied at all and of the 886 less than a third had tuberculosis programs. It may be safely assumed that those colleges which did not reply were without effective health programs.

The enrollment at colleges conducting case-finding programs in 1942-43 was 406,626. They reported 522 newly discovered cases of tuberculosis, a rate of 128 cases per 100,000 enrolled students. During the past school year, student enrollment at those institutions having survey programs was 286,018. Yet 622 new cases of tuberculosis were diagnosed, a rate of 217 per 100,000. This represents an increase of 19 per cent in the number of new cases of tuberculosis found in a student population which was 30 per cent below that of the previous year and reflects considerable improvement in the effectiveness of case-finding procedures. Of the 622 cases of tuberculosis diagnosed during the year at those colleges having case-finding programs, the lesions were classified as unstable in 156, quiescent in 151 and 315 were designated as healed. At many institutions the original tuberculosis program was frequently limited to entering students, whereas in recent years it has been expanded to include the entire student body.

There are now 93 universities and colleges which are conducting what may be considered practically ideal programs of tuberculosis control. Seventy-four colleges do routine tuberculin testing and X-ray all positive reactors each school year. Nineteen colleges report that chest X-rays are provided for all students annually, they having dispensed with preliminary testing. The programs of both groups of colleges offer a high degree of protection to their students. Cases of advanced tuberculosis among students at these 93 institutions should be encountered very rarely indeed, with such close supervision.

Reports were received from 114 colleges which do not sponsor any type of tuberculosis program. Student enrollment at these institutions was 121,133. There were 14 students found to have tuberculosis, a rate of 12 per 100,000. On the basis of

this year's experience, therefore, colleges with case-finding programs diagnosed 18 cases of tuberculosis for each case diagnosed at those schools having no program. Such evidence should leave no doubt as to the wisdom of employing modern case-finding methods in every college.

The Committee again believes it advisable to emphasize the need for active treatment in the majority of cases of tuberculosis found among young men and women of college age. Of the 622 new cases of tuberculosis among students 73 per cent of all new cases diagnosed during the year were permitted to remain in college. A considerable proportion of this group may experience progression of their disease and will eventually have to undergo treatment. Considerable time may elapse between the development of a new, unstable tuberculous lesion and the appearance of symptoms. Certainly every student who is found to have tuberculosis of recent development should be given the advantage of early treatment. Only when the lesion is judged to be stable and fibrotic is it justifiable to postpone treatment pending a period of observation.

The college which is attempting to protect its students against tuberculosis should give some thought to the possible dangers of non-student contacts. During the year there were 59 cases of tuberculosis diagnosed among faculty members and other employees and 18 cases among food handlers. Since the number of food handlers employed by a college is relatively small in comparison with the student enrollment, no great expense is involved in providing annual chest X-rays for this group.

The Committee believes there is ample evidence to justify the following statements relative to case-finding procedures commonly employed among college students:

1. The incidence of tuberculous infection among college students is steadily decreasing. The majority of reports from colleges in 1943-44 indicate infection rates varying between 15 and 30 per cent.

2. The two-dose Mantoux method is recommended as the method of choice for tuberculin testing. If a single test dose is employed, an intermediate dose of at least 0.1 mg. O.T., or 0.0001 mg. P.P.D. should be used. The Vollmer patch test cannot be recommended for use in colleges.

3. The Mantoux test is highly dependable in eliciting sensitivity due to significant tuberculous infection or disease. It is sound practice, and in the interests of economy, to provide chest roentgenograms for only those students who react to an adequate dose of tuberculin.

4. Complete protection against tuberculosis for college students cannot be attained through a program limited to the student body. Faculty members and employees, including food handlers, should participate in the tuberculosis control program on the same basis as students.

5. The lesions of pulmonary tuberculosis encountered in college students are, in a majority of instances, unstable and potentially dangerous. The absence of symptoms does not preclude the necessity of early treatment. Students who remain in college having pulmonary lesions, should be under close observation with frequent clinical and roentgenographic studies.

Tuberculosis Among College Students, H. D. Lees, M.D., The Journal-Lancet, September, 1945.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for February and March, which all members are invited to attend, follows:

February 1: Gynecological and Genito-urinary.
February 6: Miscellaneous.
February 8: Breast.
February 13: Skin.
February 15: Cervix.
February 20: Gastrointestinal.
February 22: Head and Neck.
February 27: Skin.
March 1: Gynecological and Genito-urinary.
March 6: Miscellaneous.
March 8: Breast
March 13: Skin.
March 15: Cervix.
March 20: Gastrointestinal.
March 22: Head and Neck.
March 27: Skin.
March 29: Bone and Lymphomas.

BOOK REVIEW

The Marihuana Problem. In the City of New York. Sociological, Medical, Psychological and Pharmacological Studies by the Mayor's Committee on Marihuana. Pennsylvania: The Jaques Cattell Press. 1944. Price $2.50.

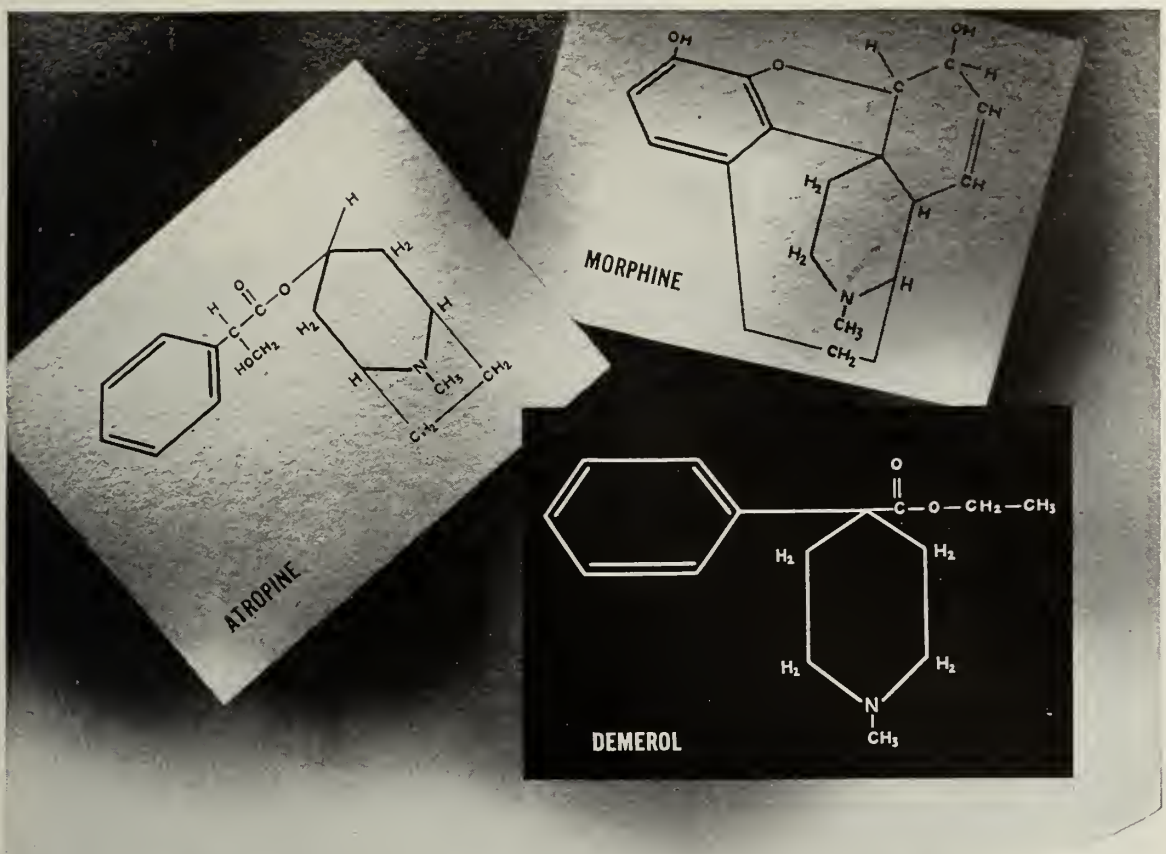
The marihuana problem so far as most Missouri physicians are concerned is academic rather than real. However, the not infrequent stories in the lay press make it of interest to know something of the truth about marihuana.

Marihuana is obtained from the flowering tops of female hemp plants, which, with species differences, are found fairly widely throughout the world. An extract of the plant, *Cannabis*, has had some use in medicine, but it is at present used chiefly in the form of cigarettes, presumably for the euphoria it creates.

From this monograph, one concludes that the results of marihuana smoking are very similar to indulgence in alcohol: euphoria, ataxia, impairment of coordination and release of normal inhibitions may occur. However, eroticism is not increased, nor does indulgence lead to crimes of violence. Apparently, use of marihuana is considerably less habit forming than use of either alcohol or tobacco, nor does its use lead to a narcotic habit. On the whole, marihuana would appear to be rather innocuous.

It is to be noted, however, that others disagree, especially as to the relation of marihuana and crime. An editorial in the *Journal of the American Medical Association* * condemns the book as having ". . . done great damage to the cause of law enforcement. Public officials will do well to disregard this unscientific, uncritical study, and continue to regard marihuana as a menace wherever it is purveyed." B. S. P.

* J.A.M.A. 127:1129 (April 28, 1945).



Chemical Relationship and Pharmacodynamic Similarity

A NEW SYNTHETIC

ANALGESIC Demerol's analgesic power ranks between morphine and codeine.

SPASMOLYTIC Demerol's spasmolytic action is similar to that of atropine.

SEDATIVE Demerol's sedative effect is mild, but usually sufficient to allay restlessness and induce sleep.

PRACTICALLY NO RISK OF RESPIRATORY DEPRESSION

WRITE FOR DETAILED LITERATURE

DEMEROL
Trademark Reg. U. S. Pat. Off. & Canada
HYDROCHLORIDE
Brand of MEPERIDINE HYDROCHLORIDE (Isonipecaine)

Average adult dose: 100 mg. orally or intramuscularly.

HOW SUPPLIED — For oral use: Tablets of 50 mg., bottles of 25 and 100. For intramuscular injection: Ampuls of 2 cc. (100 mg.), boxes of 6 and 25, and vials of 30 cc. (50 mg. per 1 cc.).

Subject to regulations of the Federal Bureau of Narcotics

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician • New York 13 N. Y. • Windsor, Ont.

REG. U. S. Wyeth PAT. OFF.

Cascara Petrogalar

REG. U. S. PAT. OFF.



A USEFUL LAXATIVE—Cascara Petrogalar combines the mild stimulating action of cascara with the softening effect of homogenized mineral oil. Prompt, easy evacuation of soft, formed stools is assured without undue strain or discomfort. Especially useful in treating stubborn cases and in elderly persons, its pleasant, dependable action helps to restore "habit time" of bowel movement. CASCARA PETROGALAR—an aqueous suspension of Mineral Oil, 65%, with aqueous extract of Cascara Sagrada, 13.2%.

Supplied in 8 fl. oz. and pint bottles

WYETH INCORPORATED • PHILADELPHIA 3 • PA.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

FEBRUARY, 1946

EDITORIALS

ANNUAL SESSION

The 88th Annual Session of the Missouri State Medical Association will convene March 24, 25 and 26 at the Jefferson Hotel, St. Louis. The first meeting of the Annual Session will be the House of Delegates which will convene at 2:00 p. m. Sunday afternoon, March 24. The Annual Session will close with the meeting of the House of Delegates on Tuesday afternoon, March 26.

The scientific program, the order of business of the House of Delegates, a listing of time and place of meetings and the commercial exhibits appear in this issue of THE JOURNAL. Also a blank for convenience in making room reservations is on page 4. All reservations must go through the Housing Bureau which has been set up by the Convention Bureau for the meeting.

The Annual Banquet in honor of Past Presidents will be held on Monday evening. The Committee on Study of Cardiac Diseases will have a dinner meeting on Sunday evening and the Committee on Maternal Welfare will hold a luncheon meeting Monday noon.

VETERAN PHYSICIANS

Among the numerous problems facing physicians returning to practice from military service, to many the greatest problem is obtaining a place to establish that practice. So far, one St. Louis physician has reported that he can share his office with a returning physician. If there are other physicians who are willing for a returning physician to make use of their offices during the time that they spend at a hospital or in making calls, the Association office would like to have the information. At least in St. Louis, there are several projects under way that will in time ease the problem of office space but at the present, the need is urgent.

Surplus medical equipment will be available within the near future to physicians who have been in service. Some equipment is available now for inspection at the following addresses: Second and Arsenal Streets, 9100 South Broadway and in the Mart Building, St. Louis. This material must still be declared surplus property and cleared before it can be obtained. Information on obtaining this equipment may be gotten through the Smaller War Plant Corporation, Room 915, Buder Building, 818 Olive Street, St. Louis. Application form No. 60 should be obtained together with regulations concerning obtaining material. A copy of discharge papers must be presented. When the application has been investigated, a certificate of priority is given the physician. If orders are placed, the physician will be notified when the material is available. Credit can be obtained through the R. F. C. or through the G. I. Bill of Rights.

Physicians who are reentering practice after returning from service are eligible to receive unemployment compensation if their net earnings are less than $100 monthly. This is handled by the United States Employment Service.

Insurance notices are not sent on service insurance for monthly payments. This must be paid to the Veterans Administration or by check payable to the Treasurer of the United States sent to Collecting Division of the Veterans Administration, Washington 25, D. C.

NEWS NOTES

Dr. Carl F. Vohs spoke on "Socialized Medicine" before the Social Studies Group of the College Club of St. Louis at a luncheon meeting on December 8.

Dr. Ira H. Lockwood, Kansas City, president of Surgical Care, Inc., explained recent developments in the medical care plan in the Kansas City area before sixty recently discharged physicians and surgeons at a dinner meeting given by directors of the Jackson County Medical Society and Surgical Care in Kansas City on December 7.

Dr. Ambrose E. Eubank, Dr. James R. McVay and Dr. Edward H. Skinner were awarded the Merit Awards with Gold Key of the Jackson County Medical Society for meritorious service to the Society. The Society also presented its Lay Honor Award and Gold Key to three men selected for outstanding work in the interest of medicine and public health: Mr. Homer H. Berger in tribute to his great interest in the Society and the development of Blue Cross Hospital Service; Mr. Arthur B. Church, president of station KMBC, for his contribution through maintaining the program, "Of Health and Happiness"; and Mr. Forest P. Dodds, president of Blue Cross Hospital service, for the successful progress and increased development of Group Hospital Service.

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Broyles, Watkins A., M.D., Bethany.
Brumm, Harold J., M.D., St. Joseph.
Camp, George H., M.D., Springfield.
Chiarotinno, Joseph F., M.D., St. Joseph.
Cooper, Maurice E., M.D., Columbia.
Craig, Owen, M.D., St. Joseph.
Crouch, F. Richard, M.D., Farmington.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Elkins, Ronald F., M.D., Springfield.
Ellis, Coburn H., M.D., Sweet Springs.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Goldberg, I. E., M.D., Polo.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.
Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D., Springfield.
Hughes, J. M., M.D., St. Joseph.
Johnston, Andrew D., M.D., Waynesville.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kinney, Wm. M., M.D., Riverside, Calif.
Kitchen, William M., M.D., Moberly.
Knepper, Paul, M.D., St. Joseph.
Kulowski, Jacob, M.D., St. Joseph.
Leech, Charles A., M.D., Columbia.
McKinstry, Karl V., M.D., DeSoto.
McNew, William T., M.D., Carthage.
McPheeters, J. W., M.D., Poplar Bluff.
Mullinax, Orr., M.D., St. Joseph.
Murphy, B. L., M.D., Hannibal.
O'Brien, James A., M.D., Joplin.
O'Donoghue, James, M.D., St. Joseph.
Platz, John H., M.D., Carrollton.
Post, Winfred L., M.D., Joplin.
Redmond, William, M.D., St. Joseph.
Robichaux, E. B., M.D., Excelsior Springs.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Saferstein, H. T., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Scorse, S. W., M.D., Webb City.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stacey, W. T., M.D., St. Joseph.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Talty, M. H., M.D., St. Joseph.
Taylor, Leon A., M.D., Jefferson City.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Throgmorton, H. B., M.D., Sikeston.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Wepprich, Michael S., M.D., St. Charles.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Baer, Alvin J., M.D., Kansas City.
Becker, Richard R., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brams, Jack B., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Buhler, Victor B., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.
Caldwell, John K., M.D., Kansas City.
Carlson, Hjalmar E., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coburn, Donald F., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Eubank, D.M., M.D., Raytown.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Gist, William W., M.D., Kansas City.
Glasscock, Ernest L., M.D., Kansas City.
Goodman, LeRoy, M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Griffith, George W., M.D., Garden City.
Growdon, John A., M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hollweg, K. C., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M.D., Kansas City.
Johnston, Paul N., M.D., Kansas City.
Klein, Edward H., M.D., Kansas City.
Kranson, Seymour J., M.D., Kansas City.

Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lacy, Eugene N., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Levey, Harry B., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Marks, Mark M., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Miller, Gerald L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morest, F. Stanley, M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.
Myers, Robert M., M.D., Kansas City.
Owens, Guy E., M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Richardson, Lyman K., M.D., Kansas City, Kansas.
Robinson, E. Kip, M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Roy, Gustave A., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Schutz, Richard B., M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.
Stockwell, Arthur L., M.D., Kansas City.
Stofer, Dar D., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Underwood, Johnson J., M.D., Kansas City.
Unger, Harold, M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.
Wilkinson, E. A., M.D., Kansas City.
Willhelmy, E.W., M.D., Kansas City.
Wood, Laurence E., M.D., Kansas City, Kansas.
Wright, Robert Paul, M.D., Kansas City.
Ziegler, A.M., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Aker, Cecil G., M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Bagby, James W., M.D., St. Louis.
Barger, John A., M.D., Florissant.
Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Boedeker, Roy V., M.D., St. Louis.
Bressler, Bernard, M.D., St. Louis.
Brown, Seymour, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Carney, Joseph E., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Charles, B. H., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Dalton, Arthur R., M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Devereaux, James A., M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.
Fletcher, Paul F., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.
Freimuth, L. E., M.D., St. Louis.
Furlow, Leonard T., M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Graul, Elmer G., M.D., St. Louis.
Gray, William H., M.D., Yakima, Wash.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Gunn, Walter T., M.D., St. Louis.
Harbison, Samuel P., M.D., Sewickley, Pa.
Hall, Lee A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Hartnett, Dalton C., M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Hermann, Morris, M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Jordan, Edward J., M.D., St. Louis.
Keffler, Karl L., M.D., St. Louis.
Kelly, Robert W., M.D., St. Louis.
Kirstein, Melvin B., M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Lattuada, Henry P., M.D., Danville, Ill.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
Macnish, James M., M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Max, Paul, M.D., St. Louis.
Max, Paul F., M.D., St. Louis.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
O'Reilly, Daniel E., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.

Patton, John F., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Post, Cyril A., M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Raines, Oney C., Jr., M.D., Gulfport, Miss.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Rosenfeld, Henry, M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Rusk, Howard A., M.D., New York City.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schuck, Carl A., M.D., Hamilton, Ohio.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Scott, Wendell G., M.D., St. Louis.
Senturia, Ben D., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Smith, Hugh R., M.D., St. Louis.
Steubner, Roland W., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stindel, C. E., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Strub, Giles J., M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Susanka, Wm. Dee, M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Warson, S. R., M.D., St. Louis.
Wasserman, Helman C., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.
Wood, Bennett R., M.D., St. Louis.
Wulff, George J. L., Jr., M.D., St. Louis.

NEWS NOTES

February 6 has been designated as National Social Hygiene Day.

Dr. E. C. Bohrer, West Plains, speaking before the Business & Professional Women's Club of West Plains, told of different plans for establishing hospitals in rural areas. He pointed out that federal funds would aid in the building of such institutions if a bill now before Congress is passed. He also told of the increasingly popular Blue Cross hospital insurance plan. Dr. Bohrer recently was named chairman for his district, including Howell, Ozark and Douglas counties, of the University of Missouri Alumni Association.

The National Federation of Obstetric-Gynecologic Societies was formed by representatives of twenty-seven obstetric and gynecologic societies at a meeting in Cincinnati in November. The purpose of the organization is given in the constitution as (1) To improve and extend maternal care throughout the country, and to awaken and stimulate interest of members of obstetric and gynecologic societies and the public in economic, social, political and educational problems pertaining to the welfare of women and their offspring; (2) to investigate proposed social, economic and political changes in medical practice which pertain to and may influence maternity care or obstetrical education, and to consult with those proposing such changes; (3) to educate the public and the medical profession in the dangers of centralized governmental control of maternal care; (4) to formulate and propose plans to carry out the above-named objectives; (5) to cooperate with other organizations having related objectives.

The *Quarterly Review of Pediatrics* is issuing its initial number in February 1946. The foreword in the first issue states "The prime function of the *Quarterly Review of Pediatrics* is to make feasible for the busy physician to keep abreast of the most recent progress in all branches of pediatrics with a minimum of time and effort. The *Quarterly Review of Pediatrics* serves also as an authoritative guide to original sources when more detailed information is desired." Irving J. Wolman, M.D., Children's Hospital, Philadelphia, is editor-in-chief.

Dr. Arthur C. Clasen, Kansas City, has been promoted to a Captain and assigned as chief of medicine at the Naval Hospital at Seattle.

Dr. John W. Williams, Jr., of the State Board of Health, was the speaker before the Community Forum at Marshall on December 14 and spoke on the county health unit.

Dr. Harry B. Stauffer, Jefferson City, was elected president of the hospital staff of St. Mary's Hospital, Jefferson City, at a meeting on December 19.

Dr. R. Hart Donnell, Crystal City, was a guest of the Rotary Club of Crystal City on December 18 and told of his experiences in Army hospitals.

The following program will be presented at a meeting of the St. Louis Surgical Society at the St. Louis County Hospital at 8:30 p. m. on February 20: "Severe Traumatic Shock in War Injuries," L. V. Mulligan, M.D.; "Cord Tumors Extending Through Foramen Magnum Into the Cerebellum," Roland M. Klemme, M.D.; "Complete Prolapse of the Bladder Following Operation for 'Total Hysterectomy'," Paul F. Fletcher, M.D.; "Traumatic Rupture of the Prostatic Urethra," Claude D. Pickrell, M.D.; "Fractured Hips Cared for in the County Hospital During the War Years of 1943, 1944, 1945," Carl F. Vohs, M.D.; "Recurring Peptic Ulcer," J. M. McCaughan, M.D.

MISSOURI STATE MEDICAL ASSOCIATION

88th Annual Session, Jefferson Hotel, St. Louis

The Eighty-eighth Annual Session of the Association convenes at the Jefferson Hotel, St. Louis, Sunday, Monday and Tuesday, March 24, 25 and 26, 1946.

TIME AND PLACE OF MEETINGS

Sunday, March 24

10:00 a. m. Council. Room 7, Second Floor, Jefferson Hotel.
2:00 p. m. House of Delegates. Crystal Room, Mezzanine Floor, Jefferson Hotel.
6:30 p. m. Dinner of Committee on Cardiac Diseases. Gold Room, Jefferson Hotel.

Monday, March 25

8:30 a. m. Scientific Session. Gold Room, Jefferson Hotel.
12:00 noon. Annual Meeting of Committee on Maternal Welfare. Crystal Room, Jefferson Hotel.
12:00 noon. Council. Room 8, Jefferson Hotel.
2:00 p. m. Scientific Session. Gold Room, Jefferson Hotel.
3:30 p. m. Scientific Session. Crystal Room, Jefferson Hotel.
7:30 p. m. Annual Banquet in Honor of Past Presidents. Gold Room, Jefferson Hotel.

Tuesday, March 26

8:30 a. m. Election of Councilors by Delegates from all Districts.
9:00 a. m. Scientific Session. Gold Room, Jefferson Hotel.
2:00 p. m. House of Delegates. Crystal Room, Jefferson Hotel.
4:30 p. m. Council. Crystal Room, Jefferson Hotel.

HOUSE OF DELEGATES

First Meeting—Sunday, March 24, 1946—2:00 p. m.

Crystal Room, Jefferson Hotel

Order of Business

Report of Committee on Credentials.
Reading of Minutes of Previous Meeting (Published in July, 1944, JOURNAL).
Report of General Committee on Arrangements: J. W. Thompson, M.D., St. Louis.
Report of Local Committee on Arrangements: E. P. Buddy, M.D., St. Louis.
Appointment of Reference Committees:
- Amendments to Constitution and By-Laws.
- Resolutions.
- Miscellaneous Affairs.
- Medical Education and Public Welfare.

Reading of President's Message and Recommendations.
Report of Executive Secretary.
Report of Treasurer.
Report of Standing Committees:
- Scientific Work: Harry C. Lapp, M.D., Kansas City, Chairman.
- Postgraduate Course: R. O. Muether, M.D., St. Louis, Chairman.
- Publication: R. L. Thompson, M.D., St. Louis, Chairman.
- Public Policy and Public Relations: Robert Mueller, M.D., St. Louis, Chairman.
- Defense: C. E. Hyndman, M.D., St. Louis, Chairman.
- Medical Education and Hospitals: Dudley S. Conley, M.D., Columbia, Chairman.
- Cancer: E. C. Ernst, M.D., St. Louis, Chairman.
- Medical Economics: Carl F. Vohs, M.D., St. Louis, Chairman.
- Mental Health: B. Landis Elliott, M.D., Kansas City, Chairman.
- Maternal Welfare: E. Lee Dorsett, M.D., St. Louis, Chairman.
- Infant Care: U. J. Busieck, M.D., Springfield, Chairman.
- Health and Public Instruction (McAlester Foundation): M. D. Overholser, M.D., Columbia, Chairman.
- Constitution and By-Laws: O. S. Gilliland, M.D., Kansas City, Chairman.
- Fractures: Frank D. Dickson, M.D., Kansas City, Chairman.
- Conservation of Eyesight: C. Souter Smith, M.D., Springfield, Chairman.
- Control of Venereal Disease: Rogers Deakin, M.D., St. Louis, Chairman.
- Industrial Health: H. I. Spector, M.D., St. Louis, Chairman.

Report of Special Committees:
- Physical Therapy: F. H. Ewerhardt, M.D., St. Louis, Chairman.

The Preference is Overwhelming

A comprehensive report published in *Human Fertility*[1] shows an overwhelming preference by experienced clinicians for the "Diaphragm and Jelly" method of conception control.

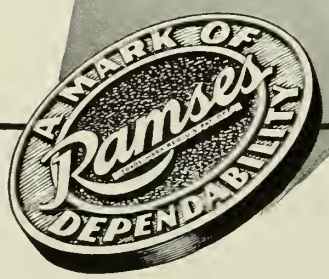
The report covering 36,955 new cases shows that the diaphragm and jelly method was prescribed for 34,314, or 93%.

On the evidence supplied by competent clinicians we continue to suggest that for the optimum in protection the physician should prescribe the combined use of a vaginal diaphragm and spermatocidal jelly.

When you specify "RAMSES"* a product of highest quality is assured.

Gynecological Division
JULIUS SCHMID, INC.
Established 1883
423 West 55th Street New York 19, N. Y.

1. Human Fertility, 10:25, March, 1945.



*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Tuberculosis: E. E. Glenn, M.D., Springfield, Chairman.
Study of Cardiac Diseases: J. DeVoine Guyot, M.D., Jefferson City, Chairman.
Postwar Planning: M. Pinson Neal, M.D., Columbia, Chairman.
Adviser to Woman's Auxiliary: H. L. Mantz, M.D., Kansas City.
Report of the Council: W. A. Bloom, M.D., Fayette, Chairman.
Appointment of Committee on Nominations.
New Business.
Selection of Place of Next Meeting.

Second Meeting—Tuesday, March 26, 1946—2:00 p. m.

Crystal Room, Jefferson Hotel

Report of Committee on Credentials.
Election of Officers:
Election of President.
Election of President-Elect.
Report of the Committee on Nominations.
Report of Election of Councilors.
Installation of the President.
Reading of Minutes.
Report of Reference Committees:
Amendments to Constitution and By-Laws.
Resolutions.
Miscellaneous Affairs.
Medical Education and Public Welfare.
Report of the Council.
Unfinished Business.

Scientific Program

Monday, March 25, 1946, 8:30 a. m.—Gold Room, Jefferson Hotel

8:30 a. m. to 10:00 a. m.

Blood

R. O. Muether, M.D., St. Louis, Moderator

Experiences With Blood Banking in Europe and Application of Blood Banks to Civilians, Harry Agress, M.D., St. Louis.
Clinical Significance of the Rh Factor, Henry Allen, M.D., St. Louis.
Recent Observations on Anemia in Scurvy, Leo J. Wade, M.D., St. Louis.
The Antianemic Activity of Folic Acid, Carl V. Moore, M.D., St. Louis.
Questions and Open Discussion.

10:00 a. m. to 10:30 a. m. View of Exhibits.

10:30 a. m. to 12:00 noon.

Chest

H. I. Spector, M.D., St. Louis, Moderator

Tuberculosis, Jay Arthur Myers, M.D., Minneapolis, Minn.
The Pneumonias, Ralph A. Kinsella, M.D., St. Louis.
Chest Tumors, Evarts Graham, M.D., St. Louis.
Chronic Suppurations, James Mudd, M.D., St. Louis.
War Injuries to the Chest, Lt. Col. Brian Blades, M.C., St. Louis.
Panel Discussion.
Questions and Open Discussion.

2:00 p. m. to 3:00 p. m. The Heart in Pregnancy, Burton E. Hamilton, M.D., Boston, Massachusetts.

3:00 p. m. to 3:30 p. m. View of Exhibits.

3:30 p. m. to 5:00 p. m.

The Kidney and Hypertension

C. H. Neilson, M.D., St. Louis, Moderator

Recent Advances in Renal Function Tests, William H. Olmsted, M.D., St. Louis.
Clinical Correlations Between the Kidney and Hypertension, Edward Massie, M.D., St. Louis.
Renal Lithiasis: Recent Advances in Treatment, Dalton K. Rose, M.D., St. Louis.
Renal Insufficiency in Extrarenal Disease, Edward H. Reinhard, M.D., St. Louis.
Questions and Open Discussion.

Tuesday, March 26, 1946, 9:00 a. m.—Gold Room, Jefferson Hotel

9:00 a. m. to 10:30 a. m.

Electrolyte and Water Balance

G. O. Broun, M.D., St. Louis, Moderator

Normal Mechanisms and Methods of Administration and Dangers, R. O. Muether, M.D., St. Louis.
Problems in Pediatrics, Alexis F. Hartmann, M.D., St. Louis.
Problems in Surgery, Robert Elman, M.D., St. Louis.
Problems in Medicine, J. B. Stubbs, M.D., St. Louis.
Questions and Open Discussion.

10:30 a. m. to 11 a. m. View of Exhibits.

11:00 a. m. Veterans Administration, Major General Paul R. Hawley, M.C., Washington, D. C. (Tentative.)

Commercial Exhibitors

Schenley Laboratories, Inc., New York. Booth 1.
C. B. Fleet Company, Inc., Lynchburg, Va. Booth 2.
J. B. Lippincott Company, Philadelphia. Booth 3.
Mead Johnson & Company, Evansville, Ind. Booths 4 and 5.
W. B. Saunders Company, Philadelphia. Booth 6.
Wm. S. Merrell Company, Cincinnati. Booth 7.
A. S. Aloe Company, St. Louis. Booth 8.
C. V. Mosby Company, St. Louis. Booth 9.
Burroughs Wellcome & Co., New York. Booth 10.
Dumas-Wilson & Company, St. Louis. Booth 12.
Denver Chemical Mfg. Company, Inc., New York. Booth 13.
Schering Corporation, Bloomfield, N. J. Booth 14.
Philip Morris & Co. Ltd., Inc., New York. Booth 15.
Gerber Products Company, Fremont, Mich. Booth 16.
Merck & Company, Inc., Rahway, N. J. Booth 17.
Medical Protective Company, Fort Wayne, Ind. Booth 18.
J. R. Siebrandt Mfg. Company, Kansas City. Booth 19.
E. R. Squibb & Sons, New York. Booth 20.
F. E. Young & Company, Chicago. Booth 21.
Smith, Kline & French Laboratories, Philadelphia. Booth 22.
National Drug Company, Philadelphia. Booth 23.
Holland-Rantos Company, Inc., New York. Booth 24.
M & R Dietetic Laboratories, Inc., Columbus. Booth 25.
Gradwohl Laboratories, St. Louis. Booth 26.
Sandoz Chemical Works, Inc., New York. Booth 27.
Ciba Pharmaceutical Products, Inc., Summit, N. J. Booth 28.
Hamilton-Schmidt Surgical Company, St. Louis. Booth 29.
Frederick Stearns & Company, Detroit. Booth 30.
Camel Cigarettes, New York. Booths 31 and 42.
White Laboratories, Newark, N. J. Booth 32.
The Junket Folks, Little Falls, N. Y. Booth 33.
G. D. Searle & Company, Chicago. Booth 34.
J. E. Hanger, Inc., St. Louis. Booth 35.
Shampaine Company, St. Louis. Booth 36.
Pet Milk Sales Corporation, St. Louis. Booths 37 and 38.
Spencer, Inc., New Haven, Conn. Booth 39.
Winthrop Chemical Company, Inc., New York. Booth 40.
Bilhuber-Knoll Corporation, Orange, N. J. Booth 41.
The Coca Cola Company, Atlanta, Ga. Booths 43 and 44.
The Borden Company, New York. Booth 45.
Nutrition Research Laboratories, Chicago. Booth 46.
Lea & Febiger, Philadelphia. Booth 47.
United Medical Equipment Company, Kansas City. Booth 48.
Ortho Pharmaceutical Corporation, Linden, N. J. Booth 49.
The Maltine Company, New York. Booth 50.
The Carnation Company, Oconomowoc, Wis. Booth 51.
The Pelton & Crane Company, Detroit. Booth 52.
Kelley-Koett Manufacturing Co., Covington, Ky. Booth 53.
Eli Lilly and Company, Indianapolis, Ind. Booth 54.
Dairy Council of St. Louis, St. Louis. Booth 55.
The Mennen Company, Newark, N. J. Booth 56.
Westinghouse Electric Corporation, St. Louis. Booth 57.
Jones Metabolism Equipment Company, Chicago. Booth 58.
Ames Company, Inc., Elkhart, Ind. Booth 59.
Cameron Surgical Specialty Company, Chicago. Booth 60.
Hygeia Nursing Bottle Company, Inc., Buffalo, Booth 61.
Abbott Laboratories, North Chicago. Booth 62.
Lederle Laboratories, New York. Booth 63.
Brooks Appliance Company, Chicago. Booth 64.
Farnsworth Laboratories, Chicago. Booth 65.
J. H. Emerson Company, Kirkwood. Booth 66.
The Warren-Teed Products Company, Columbus. Booth 67.
McIntosh Electrical Corporation, Chicago. Booth 68.

ORGANIZATION ACTIVITIES

COMMITTEE ON STUDY OF CARDIAC DISEASES

The Committee for the Study of Cardiac Diseases met at the Hotel Jefferson, St. Louis, on November 25.

The chairman, Dr. J. DeVoine Guyot, and members, Doctors A. Graham Asher, Julius Jensen and Edwin Schisler were present.

Plans were made for the forthcoming banquet on March 24, 1946, and arrangements completed with the management of the Jefferson Hotel. The banquet will begin at 6:30 sharp, and be preceded by a social hour at 5:00 p. m. Dr. Burton Hamilton, Boston, Massachusetts, will be the speaker. He will give a talk on "The Heart in Woman."

Doctors' wives and other ladies attending the meeting will be cordially welcome, and Dr. Hamilton's subject is one which should interest practitioners in all branches of medicine.

It is a desire of the committee that members purchase their tickets as early as possible, since the Hotel wishes to know for how many it should prepare. Tickets will be available through the county secretaries at an early date.

DR. J. DEVOINE GUYOT, Chairman
DR. JULIUS JENSEN, Secretary
DR. A. GRAHAM ASHER
DR. H. W. CARLE
DR. EDWIN SCHISLER.

LEGISLATION

SENATE BILL NO. 349

Senate Bill No. 349, creating a Department of Public Health and Welfare, was introduced on January 10 by Senator W. H. Robinett of Mountain Grove. Following is an analysis of the bill:

An act to provide for creation and establishment of a Department of Public Health and Welfare.

The bill creates a department of public health and welfare composed of the division of health, the division of mental diseases and the division of welfare. The state board of health, the board of managers of state eleemosynary institutions and the state social security commission are abolished and all their powers and duties shall be vested in and administered through the department of public health and welfare.

The department of public health and welfare shall be administered by a director appointed by the Governor with consent of the Senate for a four year term, concurrent with that of the Governor. He shall receive $8,500 annual salary.

Permanent offices of the department are to be in Jefferson City and no inmate of any health or correctional institution shall be employed for clerical work.

The director of the department is empowered to make inquiries and hold hearings and shall, with consent of the Senate, appoint a director for each of the three divisions. Each division director shall, subject to approval of the department director, appoint necessary employees.

All employees shall be citizens of the state for two years next before taking examination. Below the rank of director and assistant director, or chief administrative officer and assistant chief administrative officer of each institution under control of the department, all employees shall be selected on the basis of merit. A 10 per cent preference is given honorably discharged veterans.

The director shall make an annual report to the Governor and a biennial report to the General Assembly.

The department shall have power to hold title as legal trustee for the state to all real estate assigned to its administration and control.

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
MERLE Q. HOWARD, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.

ARTHUR J. PATEK, M.D.

G. H. SCHROEDER,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



Eye-witness Reports...

IT is one thing to *read* results in a published research. Quite another to see them with your own eyes.

PUBLISHED STUDIES* SHOWED WHEN SMOKERS CHANGED TO PHILIP MORRIS SUBSTANTIALLY EVERY CASE OF THROAT IRRITATION DUE TO SMOKING CLEARED COMPLETELY, OR DEFINITELY IMPROVED.

But may we suggest that you make your own tests?



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, NEW YORK, N. Y.

*N. Y. State Journ. Med. 35 No. 11,590
Laryngoscope 1935, XLV, No. 2, 149-154

TO THE DOCTOR WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

All powers and duties heretofore under control of the state board of health, except examination and licensing of persons, shall be under control of the department of public health and welfare and assigned to the division of health. The division of health shall also have control over the Missouri State Sanatorium at Mount Vernon, the accounts of city and county tuberculosis hospitals and the cancer hospital at Columbia.

The chief administrative officer of the division shall be the director of health, a physician and a citizen of Missouri for three years and receive a salary of $7,500 annually.

The division of health shall have charge of the state system of registration of births and deaths.

All powers heretofore exercised by the state board of health pertaining to food and drugs and inspection of hotels, inns and boarding houses, shall be exercised by the division of health, and shall administer all laws, orders and findings pertaining to inspection of beverages, except those administered by the supervisor of liquor control.

All powers under the control of the board of managers of state eleemosynary institutions, as they involve care and treatment of persons suffering from mental diseases, shall be under the control of the state department of public health and welfare, and assigned to the division of mental diseases. The division of mental diseases shall assume the administrative control over State Hospital No. 1, No. 2, No. 3 and No. 4, Missouri State School at Marshall and Missouri State School No. 2 at Carrollton.

The chief administrative officer of the division of mental diseases shall be director of the division of mental diseases, a citizen of Missouri for three years, recognized for his knowledge of mental diseases, and receive $7,500 annual salary.

The director of the division of mental diseases, with approval of the department director, shall oppoint a superintendent as chief administrative officer of each institution.

All powers under control of the state social security commission shall be under the control of the department of public health and welfare and assigned to the division of welfare.

The division of welfare shall administer state plans and laws involving: pensions or assistance to persons over 65 years of age who are incapacitated from earning a livelihood or are without means of adequate support; aid to dependent children; aid or relief in cases of public calamity; aid or direct relief; child welfare services; pensions to the blind administered by the Missouri Commission for the Blind and any other duties relating to social security. The division shall have control of the Confederate Home near Higginsville. The board of trustees of the federal soldiers' home shall continue to operate the federal soldiers' home at St. James as now provided, and such board of trustees shall be a part of this division.

The department of public health and welfare through and on behalf of the division of welfare shall have power to sue and be sued; to have succession in its corporate name; to make contracts and perform such other acts and duties as enumerated in the act.

The chief administrative officer of the division of welware shall be director of welfare, a person qualified to supervise the work of the division, a resident and taxpayer of Missouri for five years next preceding his appointment. He shall give a bond conditioned upon the faithful discharge and performance of official duties, and upon accountability of property and funds, approved by the attorney general as to form, and the governor as to sufficiency, premium to be paid by the state. He shall receive $7,500 annual salary.

There shall be established in every county, a county social security commission consisting of four persons, two from each of the two major political parties, selected by the state commission from a list submitted by the county court, consisting of double the number of appointments to be made. Members of county commissions shall serve a four year term. Vacancies are filled as original appointment was made. Duties of the county commission shall be advisory in nature with power to examine records of any case pending within their county and to make recommendations. They shall serve without compensation, but traveling and other necessary expenses are paid. No elective officer shall be appointed as a member of the county social security commission.

An emergency clause provides that the act become law upon passage and approval, but provisions of the act, providing for abolition of and transferring of powers of existing departments and agencies and commencing of operations of the department of public health and welfare, shall not take effect until July 1, 1946.

SOCIETY PROCEEDINGS

Associate Editors: Councilors of the Ten Councilor Districts

FIRST COUNCILOR DISTRICT

H. E. PETERSEN, ST. JOSEPH, COUNCILOR

Nodaway-Atchison-Gentry-Worth Counties Medical Society

The Nodaway-Atchison-Gentry-Worth Counties Medical Society held a dinner meeting on November 5.

The following officers were elected to serve for 1946: President, Dr. Henry C. Bauman, Fairfax; vice president, Dr. William R. Jackson, Maryville; secretary-treasurer, Dr. Charles D. Humberd, Barnard; delegates, Dr. Henry C. Bauman, Fairfax, Atchison County; Dr. Charles D. Humberd, Barnard, Nodaway County; Dr. Samuel E. Simpson, Stanberry, Gentry County; Dr. Pren J. Ross, Grant City.

CHARLES D. HUMBERD, M.D., Secretary.

SIXTH COUNCILOR DISTRICT

R. W. KENNEDY, MARSHALL, COUNCILOR

Bates County Medical Society

The Bates County Medical Society met on September 10. The following were elected to offices for 1946: President, Dr. E. E. Robinson, Adrian; secretary, Dr. A. L. Hansen, Appleton City; delegate, Dr. C. A. Lusk, Jr., Butler; alternate, Dr. Carter Luter, Butler.

A. L. HANSEN, M.D., Secretary.

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

Wright-Douglas Counties Medical Society

The Wright-Douglas Counties Medical Society held a dinner meeting at the Elliott Hotel in Mountain Grove on October 26.

The following members and visitors were present: Dr. J. R. Mott, Hartville, Dr. E. C. Bohrer, West Plains, Dr. Garrett Hogg, Cabool, Dr. R. W. Denney, Dr. R. A. Ryan, Dr. H. G. Frame and Dr. A. C. Ames, Mountain Grove, Dr. J. A. Fuson, Mansfield, and Dr. C. F. Callihan, Willow Springs.

Dr. J. R. Mott, vice president, called the meeting to order. Following the reading and approval of the minutes, a letter from Dr. Norman's daughter was read telling of the doctor's almost complete loss of sight. It was voted unanimously to remit his dues for this year and put him on the honor roll not subject to dues, until such a time as he is able to resume practice.

Dr. Hogg was then asked to tell of his experiences during his four and one-half years in the army, the last fourteen months of which he spent overseas. Following



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASSN.

discussion and questions, a vote of thanks was given Dr. Hogg.

The meeting was then adjourned.

A. C. Ames, M.D., Secretary.

Howell-Oregon-Texas-Wright-Douglas Counties Medical Society

The Wright-Douglas Counties Medical Society met with the Howell-Oregon-Texas Counties Medical Society at a dinner meeting on December 7.

The following members of the two societies were present: Dr. L. T. Van Noy, Norwood; Dr. Garrett Hogg and Dr. L. M. Edens, West Plains; Dr. J. R. Mott, Hartville; Dr. L. M. Dillman, Houston; Dr. J. A. Fuson, Mansfield; Dr. R. A. Ryan, Dr. H. G. Frame, Dr. R. W. Denney and Dr. A. C. Ames, Mountain Grove, and Dr. C. F. Callihan, Willow Springs.

Dr. L. A. Van Noy presided at the meeting. After the reading and approval of the minutes, the question of hyphenating the two societies was brought up and unanimously approved, with the understanding that most of the meetings be held at Mountain Grove or Cabool.

The following officers were elected: President, Dr. J. R. Mott; vice president, Dr. C. T. Callihan; secretary treasurer, Dr. A. C. Ames; censors, Dr. Garrett Hogg for three years, Dr. R. A. Ryan for two years and Dr. L. M. Dillman for one year. The following delegates and alternates were elected: delegates, Dr. C. F. Callihan, Howell County; Dr. C. W. Cooper, Oregon County; Dr. R. A. Ryan, Wright County; Dr. M. C. Gentry, Douglas County, and Dr. L. M. Dillman, Texas County. Alternates are: Dr. A. H. Thornburgh, Howell; Dr. F. A. Barnes, Oregon; Dr. L. A. Van Noy, Wright; Dr. R. M. Norman, Douglas, and Dr. L. M. Edens, Texas.

The meeting adjourned with the next meeting to be held January 15.

TENTH COUNCILOR DISTRICT

PAUL BALDWIN, KENNETT, COUNCILOR

Cape Girardeau County Medical Society

The Cape Girardeau County Medical Socety met on December 3, and elected the following officers for 1946: President, Dr. Rusby Seabaugh, Jackson; vice president, Dr. Frank Hall, Cape Girardeau; secretary, Dr. C. T. Herbert, Cape Girardeau; treasurer, Dr. W. J. Sparhawk, Cape Girardeau; censor, Dr. M. H. Shelby, Cape Girardeau; delegate, Dr. Frank Hall, Cape Girardeau, and alternate, Dr. C. A. W. Zimmermann, Cape Girardeau.

THE COUNCIL

Meeting of November 17, 1945

The Council met on November 17 at the Jefferson Hotel, St. Louis, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were Drs. H. E. Petersen, St. Joseph; H. B. Goodrich, Hannibal; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Kennedy, Marshall; H. L. Mantz, Kansas City; Wallis Smith, Springfield; Paul Baldwin, Kennett; R. L. Thompson, St. Louis; C. E. Hyndman, St. Louis; A. S. Bristow, Princeton; R. E. Schlueter, St. Louis; R. M. James, Jefferson City; John Williams, Jefferson City; C. F. Adams, Jefferson City; Robert Mueller, St. Louis; Mr. Thomas W. Parry, St. Louis; Mr. W. H. Bartleson, Kansas City; Mr. T. R. O'Brien, St. Louis.

It was moved that the reading of the minutes be dispensed with.

Mr. O'Brien reported on the conference of the Council on Medical Service and Public Relations held in Chicago on October 18 and 19. He gave information on national legislation—that it is expected the Wagner-Murray-Dingell bills will die in committee but that parts are being picked out and presented in other bills,

as S 1318. He reported on discussions of prepayment medical plans and stated that each state was invited to send two representatives to a meeting on November 30 and December 1 to work towards correlation and preparation of a plan to be submitted to the House of Delegates of the A.M.A.

Dr. Mantz told of a meeting which had been attended by Dr. F. L. Feierabend and presented a plan, the National Casualty Corporation, to cooperate with all state medical prepayment plans.

Dr. Mantz moved that copies be prepared for the Councilors and the matter be referred to the Committee on Medical Economics; that two representatives be appointed from Missouri, without power to act but to refer back to the Council. The motion was passed.

Dr. Goodrich moved that the two representatives from Missouri be Drs. Carl F. Vohs, St. Louis, and F. L. Feierabend, Kansas City. Passed.

Drs. Petersen, Baldwin and Hyndman were appointed as the Budget Committee.

The Treasurer gave his report showing the Association was functioning within its budget. The report was accepted.

Dr. Mueller reported that the Surgeon General expects to call to active duty as rapidly as possible every commissioned officer serving as a resident and, therefore, veterans will represent practically the only source of supply with which to fill residencies; large numbers of veterans are now and will become increasingly available to serve residencies; internships terminating April 1, 1946, will continue until July 1, 1946; senior residents who are completing their 27 months of service in a hospital will be called to active duty on or about April 1, 1946; those graduating on or about April 1, 1946, will be allowed to serve internships until July 1, 1947.

Dr. Kennedy reported briefly for the committee on Hospital construction. Mr. O'Brien discussed legislation that would affect hospital construction, the Hill-Burton bill, and Missouri H.B. 459 which would make the Missouri law conform.

Mr. Parry suggested that all Councilors notify this committee of knowledge of hospitals being considered and that a letter be written to the person in the community taking the lead, offering help in this line. It was announced that material was becoming available that would be of aid to the committee and would be sent to the committee.

Mr. Parry reported on the meetings he had attended at the Conference in Chicago on October 18 and 19 and also reported on the public relations work that had been done since the last Council meeting. The report was accepted.

Dr. William H. Olmsted, St. Louis, spoke in favor of S.B. 130, the enrichment of flour, and explained that it was sponsored principally by the National Research Council to prevent the return to unenriched flour in the postwar era. Dr. Baldwin moved that the Council endorse S.B. 130. The motion passed.

Dr. Mantz presented a problem which has arisen in some portions of the state because the narcotic laws prevent the telephoning of any prescription that contains a narcotic and pointed out the hardship that it placed, principally on the patient. It was pointed out that the law was being enforced because of the drug addict situation. It was agreed that it would become, if it were not so already, a national problem for the physician and patient.

Dr. Petersen moved that a letter be written to the Council on Pharmacy and Chemistry of the A.M.A. on the use of codeine and the handling of telephone prescriptions, asking that they take appropriate action. The motion was passed.

Mr. O'Brien read a letter from the auditor of the Association pointing out that full receipts for expenses should be presented with expense accounts.

A letter to Dr. Bristow from Dr. Grayson Carroll, president of the Mississippi Valley Medical Society, was read in which it was suggested that the Association invite the organization to meet in St. Louis next fall. It was decided that that was the prerogative of the St. Louis Medical Society and not the Association.

Meeting of Sunday, November 18

Dr. Carl F. Vohs, St. Louis, explained the work of the Farm Security Administration in Southeast Missouri. It was explained by Mr. Kleinschmidt that the appropriation for 1946 did not allow work in as large a territory as in former years and wished approval of the Association for continuation of the work only in Butler County.

After discussion, Dr. Smith moved that the Council abide by the decision of the Committee on Medical Economics but suggest to the committee that the program be carried out in Butler County.

The budget committee presented the following budget for 1946 which was adopted:

Salaries	$14,000.00
Printing of JOURNAL	12,000.00
Defense	500.00
Postage and Express	1,000.00
Postgraduate Lectures	1,000.00
Printing, Stationery, etc.	1,000.00
Travel—Executive Secretary	1,200.00
Telephone and Telegraph	1,000.00
Office Rent and Light	1,750.00
Meetings and Committee Expense	8,000.00
Public Relations	9,000.00
Insurance Annuity	900.00
Misc.—General Expense	750.00
Office Furniture and Fixtures	200.00
Woman's Auxiliary	500.00
Total	$52,800.00

Dr. Mantz reported a committee meeting held November 17 and presented the following recommendations:

1. That the Association through its JOURNAL urge better reporting of tuberculosis cases.
2. That three additional tuberculosis hospitals are needed, in the southeast, northeast and northwest portions of the state, increasing bed capacity by 1,500.
3. Development of a cooperative project between the tuberculous interests and eleemosynary to establish rehabilitation and vocational training work at the Mount Vernon sanatorium.
4. That the Committee on Tuberculosis of the Association be an advisory committee on tuberculosis to the State Board of Health.

Dr. Mantz read by title a resolution of the Missouri Tuberculosis Association approving the sale of seals. Upon motion the report and resolution was approved.

Dr. Vohs reported briefly on the status of Missouri Medical Service showing that it was progressing satisfactorily. He presented the matter of voting members for the Board of Trustees and it was suggested that Mr. O'Brien send a letter on the subject to each Councilor.

Dr. James R. McVay, Kansas City, reported on the work of the Council on Medical Service and Public Relations, on various phases of the A.M.A. and legislative work.

Dr. Mantz presented a resolution of the Wayne County Medical Society proposing a Section on General Practice of the A.M.A. Dr. Mantz moved that the Council instruct its Delegates to vote for the Wayne County proposal. Passed.

Dr. Goodrich moved that a national insurance plan be approved to cooperate with local plans providing proper safeguards be included. Passed.

Mr. O'Brien reported on the present status of bills in the legislature.

Dr. Goodrich moved that Mr. O'Brien and Mr. Parry list rebuttals that should be made in connection with H.B. 138 and place this in the hands of the legislators.

Formulac

the new vitamin-fortified infant food

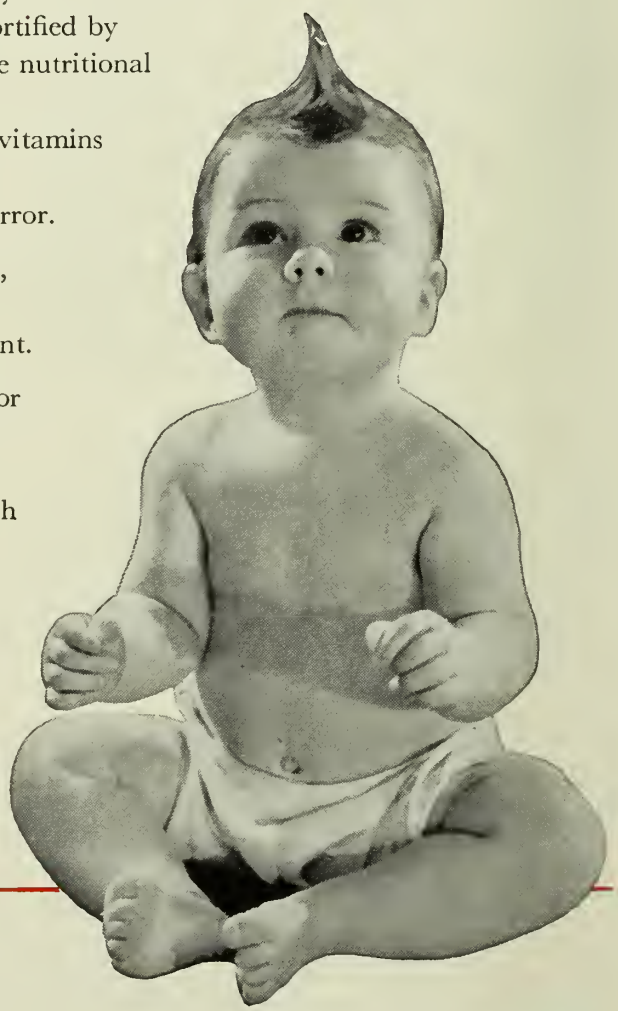
FORMULAC was developed by E. V. McCollum. It is a reduced milk, in liquid form, fortified by vitamins and minerals to meet the nutritional needs of infants *without supplementary administration*. Incorporation of vitamins into the milk itself eliminates the risk of human oversight or error.

FORMULAC has been tested clinically, and proved satisfactory in promoting infant growth and development.

FORMULAC presents a flexible basis for formula preparation. Supplemented by carbohydrates at your discretion, it may readily be adjusted to meet each child's individual nutritional needs.

FORMULAC is inexpensive. Priced within the range of even low income groups, it is on sale at most drug and grocery stores.

FORMULAC IS PROMOTED ETHICALLY





• For professional samples and further information about FORMULAC, mail a card to National Dairy Products Company, Inc., 230 Park Avenue, New York 17, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN.

Distributed by KRAFT FOODS COMPANY

NATIONAL DAIRY PRODUCTS COMPANY, INC.

New York, N. Y.

Mr. O'Brien reported on a talk by Major General Hawley on the work of the Veterans Administration which he stated would appear in the December issue of THE JOURNAL. He also presented a plan of the Monmouth County Medical Societv for the care of Veterans as follows:

Monmouth County, New Jersey, Medical Society Plan for the Care of Veterans of World War II

1. All members of the Monmouth County Medical Society, and of other County Medical Societies in New Jersey, who are designated by the Monmouth County Medical Society, will, with their consent, be designated as part-time physicians of the Veterans Administration.
2. The Monmouth County Medical Society will establish in such hospitals as it may determine, triage or sorting clinics. Such clinics will be open for the examination of veteran patients at such times as the need indicates, probably once each week or oftener. Each such clinic will be staffed by such specialists as are indicated after a trial. The function of these clinics is:
   a. To determine by examination whether or not the veteran needs treatment.
   b. To determine what such treatment should be and where it should be given.
   c. In cases where treatment is authorized by the Veterans Administration, to refer the patient to the proper physician or hospital for such treatment.
3. The Monmouth County Medical Society will form a disciplinary or reference committee to see that the patient receives the treatment indicated by the designated physician, and to pass upon complaints from all sources.
4. The Monmouth County Medical Society will operate this program for a trial period not to exceed three months without pay, except that physicians giving treatment authorized by the Veterans Administration will be paid fees. The Monmouth County Medical Society will submit to the Veterans Administration a schedule of fees which its members believe to be reasonable and just, and the Veterans Administration, after consultation with the Society, if necessary, will determine the schedule of fees to be paid. Except for the payment of authorized service to patients, the Veterans Administration will not be obligated financially during this trial period.
5. The Veterans Administration will provide the proper liaison and facilities for making prompt decisions as to service connection in each of the clinics.

Dr. Curtis H. Lohr was appointed as chairman of a committee to work on a plan for care of veterans.

It was decided that the next meeting of the Council should be about January 18 and 19. Dr. Smith asked the Council to meet in Springfield and it was decided that it would be better not to go to Springfield during the winter because of difficulty in reaching there from Kansas City and other parts of the state.

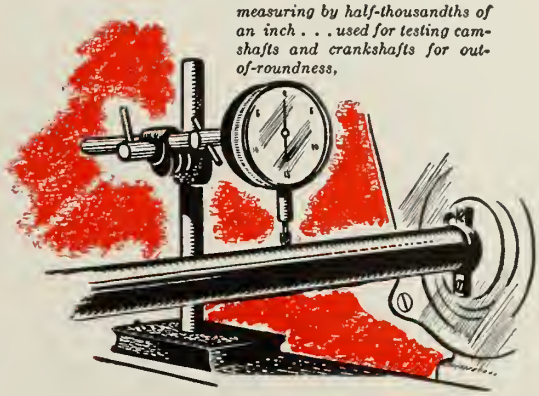
Meeting of January 12

The Council met at the Coronado Hotel, St. Louis, on January 12, 13, 1946, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were Drs. H. B. Goodrich, Hannibal; J. W. Thompson, St. Louis; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Kennedy, Marshall; H. L. Mantz, Kansas City; Wallis Smith, Springfield; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; A. S. Bristow, Princeton; C. E. Hyndman, St. Louis; W. L. Allee, Eldon; R. M. James, Jefferson City; R. E. Schlueter, St. Louis; Robert Mueller, St. Louis; Mr. Thomas W. Parry, Mr. Lemoine Skinner and Mr. T. R. O'Brien, St. Louis.

Mr. Parry presented a report on public relations work done since the last meeting of the Council. The report was accepted. Mr. Parry introduced Mr. Lemoine Skinner who is now associated with Mr. Parry.

Mr. O'Brien presented the program to date for the Annual Session. He stated that sixty-eight exhibits

DIAL TEST INDICATOR measuring by half-thousandths of an inch . . . used for testing camshafts and crankshafts for out-of-roundness,



WHEN IT'S *Precision*

YOU REQUIRE . . .

FOR the treatment of pernicious anemia, medical science has found a specific in liver therapy.

But like the highly sensitive dial test indicator which measures within .0005 inch, liver extract—to give precise results—must be manufactured with the utmost care.

. . . And nothing less than precision will meet the requirements of the competent physician.

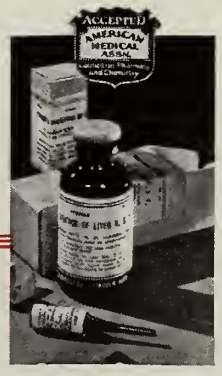
For these requirements, Purified Solution of Liver, Smith-Dorsey, deserves your confidence.

Its uniform purity and potency are traceable to the conditions under which it is produced—to the capably staffed laboratories, the modern facilities, the rigidly standardized testing procedure.

You may be assured of *precision* in liver therapy when you use

PURIFIED SOLUTION OF *Liver*

SMITH-DORSEY



Supplied in the following dosage forms: 1 cc. ampoules and 10 cc. and 30 cc. ampoule vials, each containing 10 U.S.P. Injectable Units per cc.

THE SMITH-DORSEY COMPANY
Lincoln, Nebraska

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

for the session had been reserved. He asked Councilors to ask members in their districts to make reservations early for the session.

A letter from Chariton County Medical Society concerning electing to membership a former member who had left that county to go with the Veterans Administration and more recently in military service was presented. After discussion of the limitations of the Constitution in the matter, Dr. Thompson moved that the candidate be instructed to apply for society membership in the county in which he holds legal residence. The motion passed.

Mr. O'Brien presented material from the St. Louis Better Business Bureau and asked advice of the Council concerning membership in the Bureau. After discussion by Dr. Smith and Dr. Mantz, both stating that their societies belonged to the bureaus in their cities, Dr. Mantz moved that the Association apply for membership which is to cost $100.00.

Bills in the Missouri Legislature and in the Congress were discusseed. It was stated that the joint committee of the Council and the Community Health League would meet in the afternoon and would report on Sunday.

Dr. Mueller reported on the work of Procurement and Assignment and thanked the Councilors and the Association office for the assistance given.

Upon motion of Dr. Smith, a vote of thanks was extended to Dr. Mueller for his work.

After discussion of dues of physicians returning from military service, the following committee was appointed to study the question: Drs. Mantz, Goodrich and Mueller.

Dr. Schlueter reported on the House of Delegates of the American Medical Association bringing out the following points: Pledge of support to Major General Paul R. Hawley; condemning of hospital staff meetings taking the place of society meetings; approval of Hill-Burton bill; question of International Medical Congress under UNO was referred to the Board of Trustees; Physicians should restrict telephoned prescriptions for narcotics to emergencies; public relations counsel should be utilized on national, state and county levels; should be no cancer diagnostic clinics without approval of county societies; nation-wide organization of prepayment medical service plans sponsored by medical societies; recommendation of change in by-laws for two meetings a year of House of Delegates; disapproval of licensing without examination discharged medical officers because of state laws; qualification of physicians is a local problem; favored EMIC but opposed the Pepper bill; recommended formation of National Health Congress and referred to Council on Medical Service and Public Relations; Board of Trustees were instructed to issue booklet on the importance of animal experimentation; reaffirmed approval of work of the National Committee for the Extension of Medical Service. Dr. Allee called attention to the new Section on General Medicine.

Dr. Goodrich spoke of the seeming excellent qualifications of the three new members of the Board of Trustees.

The committee to study the petition of the Pan-Medical Association was asked to present a report at the March 24 meeting of the Council.

Articles in several recent medical publications were discussed and Mr. O'Brien suggested that Councilors subscribe to Survey Graphic, 112 East 19th Street, New York 3, N. Y., subscription price $3.00.

Dr. Mantz suggested that nonscientific publications be asked to notify the Association of medical articles to appear and that a listing of such articles be carried in The Journal.

The Treasurer presented a brief report on the finances of the Association.

Meeting of Sunday, January 13

Dr. Lohr outlined the problems confronting the Veterans Administration in care of veterans and gave some of the views of Major General Hawley on this. (Article in January issue of Journal carries an article giving views of Major General Hawley.) Dr. Lohr also presented the plan which has just gone into effect between Michigan Medical Service and the Veterans Administration. After discussion by Drs. Mantz, Lohr, Smith and Mr. O'Brien, Dr. Mantz moved that this matter be referred to a committee of five veterans with Dr. Lohr as chairman who would study the problem and outline plans to be carried out in Missouri. The motion was passed.

Dr. Thompson submitted the report of the joint committee on Public Health and Welfare, outlining the bills that are now before the Legislature as to Public Health and Welfare and also on licensing. This was discussed by Drs. Goodrich, Lohr, Bloom, Mantz and Mr. O'Brien.

Dr. Thompson moved that the Association go on record as approving Senate Bill 349 with certain changes and modifications. The motion passed.

Dr. E. P. Buddy, St. Louis, president of the St. Louis Medical Society, was introduced, and stated that the St. Louis Medical Society wishes to cooperate with the State Association.

The amount of work of the Association and the need for further work, especially in contacting and working with county medical societies, was discussed. It was moved that Lt. McIntyre, upon his discharge, be reemployed as field secretary, his principle work being visiting county societies, assisting them in getting new members and arranging programs for them together with research work that may be necessary; that Mr. O'Brien be retained in executive position with the Association.

Dr. Mantz, reporting for the committee on dues of returning physicians, suggested a tentative by-law allowing the remittance of dues, upon request, which would cover a period that would apply to the complete first year the physician is out of service. He stated that the committee would have a definite recommendation at the next meeting of the Council.

Dr. Bohrer asked approval of the rehyphenation of the Howell-Oregon-Texas-Wright-Douglas Counties into one society. This was approved by the Council.

MISCELLANY

"PHYSICIAN, HEAL THYSELF"

Editors of popular magazines are constantly seeking material which will increase the circulation of their publications. Public taste fluctuates and it is their business to detect trends. For some time there has been a growing interest in medicine. Most magazines of a general nature feature at least one or more so-called health articles a year. Contributors usually have either scientific background or the professional qualifications to deal with their subjects. Unfortunately, this is not always so. There are incompetents in this field as in every other. Then, too, there are writers who, knowing better, sensationalize their material with the result that it is misleading. Generally speaking, however, an honest and intelligent presentation is made.

There is no subject which intrigues the layman more than health habits which are conducive to longevity. Therefore, one sees many articles on this subject. Some weeks ago your Observer ran across an article in *This Week*, a syndicated magazine supplement to Sunday newspapers. It was entitled "Who'll Live Longest?" and was written by Helen C. Bennett. Miss Bennett had apparently delved rather deeply into the statistical

Reprinted from the Medical Annals of the District of Columbia, November 1945.



STRENGTH AND ENDURANCE

may be impaired in middle-aged men when male sex hormone diminishes and the climacteric begins. For such patients, therapy with ORETON supplies needed testosterone and alleviates promptly the diverse symptoms of the disturbed endocrine balance.

With ORETON, androgen-deficient patients "register their appreciation of a definite change in the muscular system"[1] and are quickly aware of "greater mental ability, not only in concentration, but in fulfilling of social and economic responsibilities."[2]

ORETON
ORETON-M

ORETON in oil for intramuscular injection in ampules of 1 cc. containing 5, 10 and 25 mg. testosterone propionate. Average male climacteric patients require 25 mg. ORETON injected three times weekly, decreasing dosage and increasing the interval with improvement.

ORETON-M Tablets containing 10 mg. methyl testosterone may be used initially for mild climacteric symptoms, average dosage consisting of three to six tablets daily. Dosage may be adjusted subsequently to need.

1. Kearns, W. M.: J. Clin. Endocrinol. 1:126, 1941.
2. Dunn, C. W.: Delaware State M. J. 11:76, 1939.

TRADE-MARKS ORETON AND ORETON-M — REG. U. S. PAT. OFF.

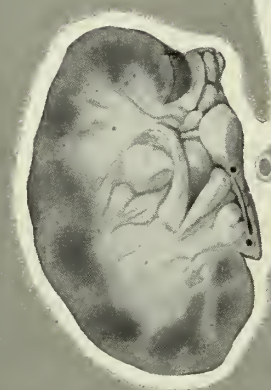
SCHERING

Schering CORPORATION • BLOOMFIELD, N. J.

IN CANADA: SCHERING CORPORATION LIMITED, MONTREAL

FIFTH IN A SERIES OF CHALLENGES TO MEDICINE'S

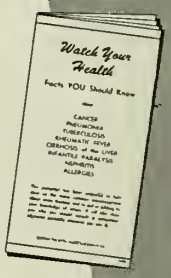
Achievements For Tomorrow



• NEPHRITIS stood fourth in causes of death in 1942*.

This is one disease from which thousands could be saved if people were educated to visit their physicians for periodic checkups, because nephritis gives no warning symptoms in its early stages. A physician's thorough examination and tests would disclose the otherwise unsuspected nephritic condition.

To help in educating the laity in the importance of regular examinations, we have prepared a pamphlet — "Watch Your Health". Nephritis is one of the seven serious diseases explained in simple terms. Copies are available to physicians on request.



* U. S. Summary of Vital Statistics, 1942.

WARREN-TEED

Medicaments of Exacting Quality Since 1920

THE WARREN-TEED PRODUCTS COMPANY, COLUMBUS 8, OHIO



Warren-Teed Ethical Pharmaceuticals: capsules, elixirs, ointments, sterilized solutions, syrups, tablets. Write for literature.

material available on her subject. Among other things she says, "If your object in life is to outlive other people, don't be a doctor. Their expectancy is less than that of almost any other profession. It's a grim fact that physicians, who have done most to extend the lease on life for humanity in general have been among those least benefited by the extension."

Now there is nothing startlingly new about this statement because the mortality rate among doctors of middle age has been notoriously high. Physicians have become familiar with the lengthy obituary lists in the *Journal of the American Medical Association.* They know, too, that a majority of physicians die from heart failure. One would think that in the face of this knowledge physicians would do something about it. But it appears that for one reason or another they ignore the whole business.

What is wrong with doctors where their health is concerned? Why do they fail to apply preventive measures with which they are so familiar? Why are they so inclined to break every health rule? Only physicians themselves know the real answers to these questions.

As custodians of the health of their patients, physicians insist upon compliance with their instructions. Plenty of rest, no tobacco and very moderate use of alcoholic beverages mean just that. But how frequently they neglect to apply such prohibitions to themselves. As for a health inventory, it never occurs to most of them. Whether this indifference to their own health is due to a feeling that physicians are exempted from mortal ills, your Observer does not know. What is apparent is that most doctors seem determined not to be concerned about their physical or mental well-being.

It is high time that something be done about this situation. For this country can ill afford to lose doctors in what should be the prime of life. Laudable steps have been taken to make people conscious of diseases that can be prevented. We have become familiar with Cancer Month, the Christmas Seal Campaign and the President's Birthday. In view of the great need for physicians in this country, efforts to save the lives of those who neglect themselves to the extent that they die before they should might be undertaken. Perhaps what we need to make doctors more conscious of their own health is a Doctors Health Month. It might prove more than a little embarrassing; on the other hand it would perhaps bring results, which after all is what counts.

VETERANS ADMINISTRATION DEPARTMENT OF MEDICINE AND SURGERY

The Veterans Administration is able to offer more attractive opportunities to doctors, dentists and nurses interested in helping care for veterans under H. R. 4717, a bill to establish a Veterans Administration Department of Medicine and Surgery. Veterans Administration officials estimate that they need approximately 1,125 physicians, 1,200 nurses and 100 dentists to fill present vacancies. Additional positions will open as Army and Navy personnel at Veterans Administration establishments are released from active duty.

The new act sets up a Department of Medicine and Surgery under a Chief Medical Director to replace the present medical set-up under the Civil Service. This act will bring professional personnel into an organization comparable with the Army and Navy Medical Corps and the U. S. Public Health Service.

Among the major provisions of the new act, besides setting up a medical department outside Civil Service, are the following:

(1) Specialists certified by the Veterans Administration will be paid 25 per cent more salary up to a ceiling limit of $11,000 a year.

(2) Residencies will be set up in Veterans Administration hospitals where younger doctors may study to qualify as specialists. This will mean that veterans will

WHO—

Chicago Medical Society

WHAT—

Annual Clinical Conference

WHEN—

March 5, 6, 7, 8, 1946

WHERE—

Palmer House, Chicago, Illinois

WHY—

- **For daily scientific programs consisting of half-hour lectures and clinics, beginning at 8:30 A. M. and continuing until 5:00 P. M.**
- **To inspect scientific and technical exhibits**
- **To hear new ideas presented by outstanding clinicians from all sections of the United States**
- **To renew acquaintances**
- **To relax away from your own office**
- **To attend a banquet on Thursday night**

HOW—

By making YOUR reservation at once through The Chicago Convention Bureau, 33 North LaSalle Street, Chicago 2, Illinois

Registration Fee $5.00

be able to obtain the most up-to-date medical treatment —the same kind as if they were admitted to hospitals connected with the nation's leading medical schools and centers.

(3) Promotions will be made on recommendations of special Veterans Administration boards which, in general, compare with the "Selection Boards" operating in the Army and Navy for higher ranking officers.

(4) Through the establishment of appointment, promotion of disciplinary boards, the legislation will permit the Veterans Administration to have complete supervision of its own professional employees, based upon their professional competence.

The act provides (1) Office of Chief Medical Director; (2) Medical Service; (3) Dental Service; (4) Nursing Service; (5) Auxiliary Service. The director will be paid a salary of $12,000 a year, a deputy medical director $11,500 and assistant medical directors, not to exceed eight in number, will be paid $11,000 each. On the Medical Service the grades and full-pay ranges of the positions established by the new legislation are: Chief grade, $8,750 minimum to $9,800 maximum; senior grade, $7,175 to $8,225; intermediate grade, $6,230 to $7,070; full grade, $5,180 to $6,020; associate grade, $4,300 to $5,180; junior grade, $3,640 to $4,300.

Further information may be obtained by addressing the Veterans Administration, Washington 25, D. C.

BOOK REVIEW

Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P. Medical Director, Pottenger Sanatorium and Clinic for Diseases of the Chest, Monrovia, California; Professor Emeritus of Clinical Medicine, University of Southern California; Author of "Clinical Tuberculosis," "Tuberculin in Diagnosis and Treatment," "Muscle Spasm and Degeneration," Etc. Sixth Edition. With Eighty-Seven Text Illustrations and Ten Color Plates. St. Louis: C. V. Mosby Company. 1944. Price $5.00.

This is a thorough discussion of man as a segmented organism. It describes visceral and somatic relationships to neuroses which take origin in various segments of cord and describes the reflexes which result. Reflex spasm, degeneration and referred pain are discussed and assigned to various neurons which mediate impulses from inflamed or irritated viscera.

Clinicians should familiarize themselves with those conditions which produce general sympathetc stimulation, such as toxemia, fear, anger and pain; and parasympathetic stimulation such as is caused by anaphylaxis and other tissues—antigen reactions. The functional dyspepsia which constitute a great percentage of gastric disturbance can be explained by stimulation or inhibition of the vegetative nervous system.

There are many other interesting significant bits of information that can be gleaned. Many medical men are of the opinion that when a patient has an appendicitis and pain is noted in left side of abdomen, then the organ is situated in the left side or the tip hangs over. This is not true for there is no change in relationship of afferent and efferent neurons which produce the pain; consequently the pain is always transferred in the same way and the neurons over which it spreads. When the pain extends over on the left side, the cause is either a transference of efferent stimuli in the cord, a complicating disease in the part of other viscera which normally produce reflexes on the left or peritoneal involvement.

This book is a splendid addition to one's medical library. It should be of paramount importance to those who are specifically interested in psychosomatic medicine.

H. S.

Advertisement



From where I sit
by Joe Marsh

"There Ought to be a Law!"

Every now and then, when I run out of news for the *Clarion,* I print items about what happened Fifty Years Ago in Our Town. May be a lazy man's way of filling space, but it often makes mighty interesting reading.

Seems like human nature is always repeating itself. Same old prejudices, bickerings, and mistakes. Here's an 1895 politician trying to restrict free speech . . . a group crying out against vivisection . . . a local committee raising the bugaboo of Prohibition.

Same old cry down through the years: "There ought to be a law!" Same old desire of one group to force its opinions on another.

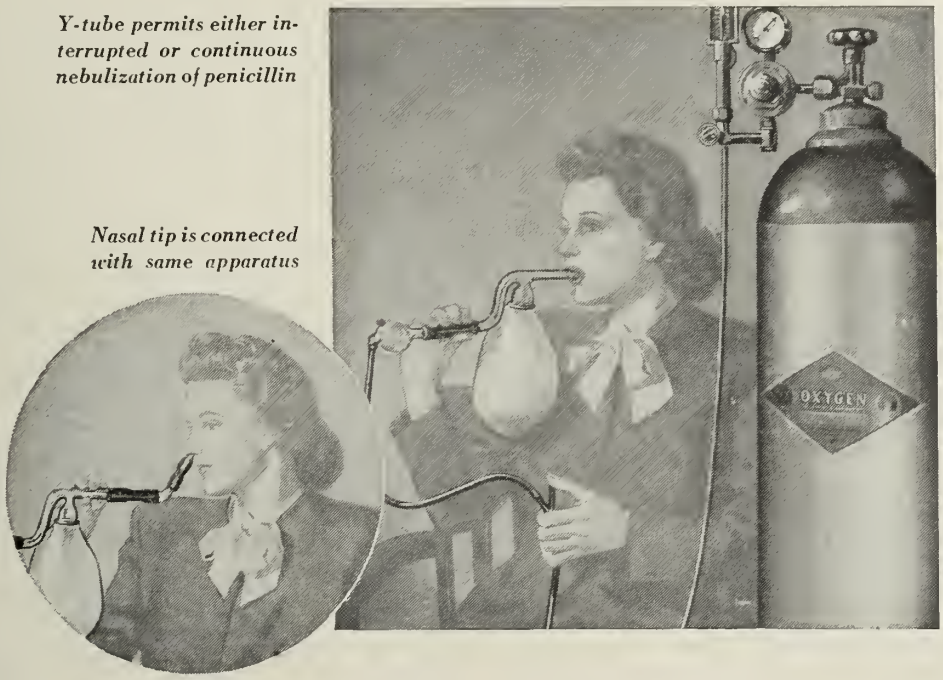
From where I sit, it's not more laws we need—nor more restrictions of our right to think, and choose, and live as we see fit. But more tolerance and understanding—*more "live-and-let-live" among humankind.*

Joe Marsh

Copyright, 1946, United States Brewers Foundation

Y-tube permits either interrupted or continuous nebulization of penicillin

Nasal tip is connected with same apparatus



NEW METHOD of Penicillin Inhalation Therapy

Indicated for Broncho-Pulmonary Infections

EVIDENCE gleaned from recent clinical tests suggests notable improvement may be expected in selected cases of bronchial asthma, chronic bronchitis, bronchiectasis, lung abscess, and sinusitis, upon inhalation of Penicillin Aerosol.

The aerosol apparatus illustrated allows rebreathing of the nebulized penicillin solution and increases local deposition of the drug on the broncho-pulmonary surface.

Space does not permit detailed description of this new therapeutic method. The makers of Penicillin Schenley have prepared for the use of physicians, a descriptive folder which is yours for the asking.

Write for our folder describing inhalation therapy with Penicillin Schenley to . . .

dept. no. 2E
SCHENLEY LABORATORIES, INC.
Executive Offices: 350 Fifth Avenue, N. Y. C.



Your Local Distributor for **PENICILLIN** SCHENLEY *is:*

ST. LOUIS
Charles A. Schmidt Instrument Co.
Storz Instrument Co.

SPRINGFIELD
Burt Krone Company

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

RESOLUTION FROM THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION,

DEC. 6, 1945

Whereas, The object of the Woman's Auxiliary is to aid the American Medical Association in every way requested, and

Whereas, The most urgent need at the present time is for widespread dissemination of knowledge concerning the hazards of current medical legislation, therefore be it

Resolved, That the House of Delegates of the American Medical Association request the Woman's Auxiliary to use every avenue possible to bring such information to its members and through them the public.

The Woman's Auxiliary to the Missouri State Medical Association will hold its Annual Meeting in St. Louis, March 24 and 25. Headquarters will be at the Coronado Hotel. Please send your reservations in now.

Mrs. Wallace M. Bickford, 546 E. Eastwood, Marshall, will serve as chairman of the Nominating Committee.

REHABILITATION

The War Service Committee was created by a resolution passed by the House of Delegates at the annual meeting of the Woman's Auxiliary to the American Medical Association, June 7, 1943.

The program was developed with the idea that each Auxiliary member as an American citizen is assuming her responsibility in the total war effort.

Our loyalty to the Missouri State Medical Association during these trying years should rank second to our loyalty to our country. For that reason, as our country returns from war to peace, we ask you as county groups and individual members to give full cooperation to new state and national problems, of unprecedented seriousness, which confront us all. Let us feel that we have a part to fulfill, remembering that we are all working for one great cause; namely, the betterment of health, through health education. The responsibility for leadership in a health program for the people must be assumed, as always, by the medical profession. By assisting the doctors in carrying out their program, the Auxiliary can give their greatest service.

Challenging indeed are many of these problems such as having postwar nutrition, extended medical and hospital services on a voluntary basis and increased availability of medical education to men and woman.

Therefore it is the duty of Auxiliary members to assist groups working toward the solution of these important problems and to furnish leadership in their communities to carry on this worthwhile program.

I also make a plea for the returning doctor and his family. You can be of great service to him by offering to help him find a home or an office or anything that is needed to make his homecoming a more happy one.

Mrs. A. L. Walter, Chairman
Committee on War Service

PRESIDENT'S JANUARY MESSAGE*

This new year will be a legislative year. For this reason the House of Delegates of the American Medical Association has adopted a resolution requesting the Woman's Auxiliary to use every avenue possible to bring knowledge concerning the hazards of current medical legislation to its members and through them the public.

Mrs. W. E. Koppenbrink, our President-elect, and I have just returned from the conference of the Woman's Auxiliary to the American Medical Association. It was held at the Hotel Knickerbacher in Chicago, Dec. 5 and 6. There were thirty-six presidents and presidents-elect in attendance. It was a thrill to see presidents from the west coast to the east coast and from the north and the south.

Mrs. R. E. Mosiman from Washington was elected chairman of the conference and Mrs. William H. Falk of South Carolina, the secretary.

It certainly gave us inspiration and a unified feeling of strength when we heard from Mrs. Eustace Allen, the organization chairman, that the Auxiliary now has 25,345 members in 579 organized counties; 448 are members-at-large. This increase of 1,056 was made during war times. Just think what we should do during this year of peace.

Dr. Malcoln MacEachern, President-elect of the Chicago Medical Society, gave a fine address. He said that we are all members of the American Medical Association and that we should work together. The Auxiliary should augment the doctor's work by promoting health education and by spreading the truth of all the new legislation that is coming up.

Dr. Joseph Lawrence, Washington, D. C., gave a fine talk on Legislation Bills. He calls President Truman's Health Bill a political medicine. He asked us to go home and talk with our Senators and Representatives while they are at home during the holidays; tell them what the physicians represented by the American Medical Association propose in their constructive program for the extension of improved health and medical care to all the people.

Dr. Louis H. Bauer, a member of the Board of Trustees, gave a splendid explanation of the American Medical Association's 14 point Constructive Program. He also asked us to go home and explain it to each member and have our husbands take time to explain it to every patient that he sees.

The informal reports of the state presidents and the presidents-elect were most helpful and inspiring. Many new ideas were gained by hearing of the wonderful achievements in each state.

At one of the luncheons we had as special guest Mrs. Harold V. Milligan, National Commander of the American Cancer Society. She gave a very interesting talk on the work of the Cancer Society. We were very proud to welcome our own Mrs. David S. Long, Regional Commander, and Mrs. J. A. Helm, Missouri's Director of Public Relations for the Field Army. May I close by wishing every one a most prosperous and healthful New Year. Here is a little poem of thanksgiving:

Thank Thee Lord for a New Year,
New in its freshness
Old in its problems,
You have given us a brand new start,
From peace and truth we will never part,
If we stay close to thy loving heart.

Mrs. Harry M. Gilkey, President.

TREASURER'S REPORT

Since our treasurer's books must be closed by March 1, 1946, every effort must be made at once to collect our dues. A letter with the remittance sheets has been mailed to each county treasurer. It is a real pleasure to serve as treasurer when everyone responds promptly.

Every member will have her name in our new state roster if dues are paid. The roster will be published

*Through error the material prepared for the January issue of The Journal was not included in that issue.

in the June issue of THE JOURNAL, at the same time the physicians have their roster. Reprints can be made.

MRS. C. E. GILLILAND, Treasurer.

PRESIDENT'S FEBRUARY MESSAGE

The 1945-46 Auxiliary year is fast drawing to a close and each officer, chairman and county president will give her report at the convention in St. Louis on March 24 and 25 at the Coronado Hotel. Please start making your plans now and send in your reservation for your hotel room right away. Mrs. August Werner, Convention Chairman, tells me that many plans are being made for your enjoyment and pleasure. It will be a real reunion for old and new friends.

The Executive Board meeting will be held on Sunday afternoon at 2:30. In the evening there will be a buffet supper with entertainment at the St. Louis Medical Building. The general meeting will be on Monday morning at 9:30.

I am happy to announce two of our special guests will be Mrs. David W. Thomas, Lock Haven, Pennsylvania, our National President, and Mrs. W. W. Potter, Knoxville, Tennessee, President of the Woman's Auxiliary to the Southern Medical Association. It will be a real treat to have them with us and you will learn at first hand some of the things our national organization is doing.

I wish to call your attention to our slogan, "Promote the Advancement of Health Education Through Service," the key words, "Membership, Hygeia and *National Bulletin.*"

Do you remember our goal for Missouri was set for 1,000 members? How many new members has your county? Have you pledged a new member-at-large? Tempus fugit! I am counting on you. The organization is working on Scott, Butler, Johnson, Ray, St. Charles, Pike, Marion-Ralls and Wright-Douglas counties. If you know anyone in these counties will you write them and urge them to join us?

MRS. HARRY M. GILKEY, President.

BOOK REVIEWS

MANUAL OF TROPICAL MEDICINE. Prepared Under the Auspices of the Division of Medical Sciences of the National Research Council. Colonel Thomas T. Mackie, M.C., A.U.S. Executive Officer, Tropical and Military Medicine; Chief, Division of Parasitology, Army Medical School. Major George W. Hunter, III, Sn.C., A.U.S. Division of Parasitology, Army Medical School. Captain C. Brooke Worth, M.C., A.U.S. Division of Parasitology, Army Medical School. 287 Illustrations, 6 in Color. Philadelphia: W. B. Saunders Company. 1945. Price $6.00.

This volume is one of the military medical manuals developed under the auspices of the Division of Medical Science of the National Research Council. The committee on medicine is composed of the outstanding internists of the United States and the book covers more than tropical medicine. The title, "Tropical Medicine," should be expanded to cover various other substances, as parasitology and other infectuous diseases, as well as some of the nutritional diseases. The book is exceedingly well written, consists of 492 pages of actual diseases and then an additional 153 pages concerning miscellaneous groups of animals which injure man, which does not include the parasite or vectors of disease discussed elsewhere. This includes leeches, fish, snakes, spiders, crocodiles, tarantulas, scorpions, insects, ticks. Then the last portion of the book consists of 35 pages of laboratory diagnostic methods. All of this is well written and interesting.

The main part of the book is divided into the following sections:

Section I on viruses includes encephalitides, poliomyelitis, yellow fever, dengue and dengue-like fever and similar diseases.

Secton II is made up of the rickettsial diseases, which is divided into typhus, spotted fever and trench fever.

Section III consists of spirocheal diseases, relapsing fever, yaws, pinta and leptospiral jaundice, swamp fever, seven day fever and rat-bite fever.

Section IV is classified as bacterial diseases in which there is a discussion of diarrheal diseases due to bacillary dysentry, with discussion on cholera, brucellosis, leprosy, plague and tularemia.

Section V includes mycotic diseases which are subdivided into cutaneous mycoses and systematic mycoses.

Section VI is on protozoal diseases with many classifications, the ones that we in this part of the country being especially interested in being amebiasis and malaria. It also discusses the rarer diseases which one does not see in this country or climate.

Section VII discusses helminthic diseases classified as intestinal nematodes, which cover all of the intestinal parasites, tissue inhabiting nematodes, with an excellent discussion of trichonosis, the schistosomes and cestodes.

Section VIII consists of nutritional diseases in which pellagra, beriberi, nutritional edema, dropsy and osteomalacia are covered.

Section IX is on miscellaneous conditions, all of which are rather unusual, the last part of which is the discussion of heat cramps, heat exhaustion, heat pyrexia and prickly heat.

There are 287 illustrations, 6 in color, that are appropriate to the subjects discussed. One error that was noticed in reading the book was that on page 306 in the treatment of oxyuriasis, it says for detailed outline of treatment see page 498. This should be 446 and 448.

The outstanding treatises in the book are on malaria, with the malarial parasites shown in cuts of color. Another outstanding chapter is on amebic dysentry.

This is a book which should be available to every practitioner of medicine who is going to see any returning sailor or soldier who has been in a foreign country. There has been in the last few years no outstanding textbook on parasitology or tropical medicine, and I feel this book fills a well needed space in every doctor's medical library. R. C. D.

DIETOTHERAPY. Clinical Application of Modern Nutrition. Edited by Michael G. Wohl, M.D., Associate Professor of Medicine, Temple University School of Medicine; Chairman, Advisory Committee on Nutrition, Philadelphia Department of Public Health; With a foreword by Russell M. Wilder, M.D., Ph. D., Professor of Medicine and Chief of the Department of Medicine, Mayo Foundation; Member of the Committee on Medicine and Subcommittee on Medical Nutrition, Medical Sciences Division, National Research Council. Philadelphia: W. B. Saunders Company. 1945. Price $10.00.

This book should be studied by everyone interested in nutrition. First of all a discussion of a normal diet is given followed by the factors to be considered in treating various diseases. One entire section is devoted to "Nutrition in Periods of Physiologic Stress." A summary of the scientific aspects of nutrition is given, including the viewpoints held by different investigators. This text is very practical, acknowledging the limitations as to the application of feeding principles. A greater emphasis could be placed on the psychiatric aspect of food idiosyncrasies and some methods suggested to convince patients that good food habits are vital for good health. I think this is the best book that has appeared on nutrition since Lusk's "Science of Nutrition." M. M. B.



For the symptomatic relief of sinusitis...

"The benzedrine inhaler is an excellent vasoconstrictor and unless overindulged in, it may be used conveniently for long periods without deleterious results." Moore, J. H.: A Resume of Conservative Sinus Management, Southern Med. J. 34: 848-854

The vasoconstrictive vapor of Benzedrine Inhaler, N.N.R., diffuses evenly throughout the upper respiratory tract, opening sinal ostia and ducts which are frequently inaccessible to liquid vasoconstrictors. The sinuses drain. Headache, pressure pain, "stuffiness" and other unpleasant sinusitis symptoms are relieved. Each Benzedrine Inhaler is packed with racemic amphetamine, S.K.F., 200 mg.; menthol, 10 mg.; and aromatics. Smith. Kline & French Laboratories, Phila., Pa.

Benzedrine 

Inhaler

...a better means of nasal medication



No food (except breast milk) is more highly regarded than Similac for feeding the very young, small twins, prematures, or infants who have suffered a digestive upset. Similac is satisfactory in these special cases simply because it *resembles breast milk so closely,* and normal babies thrive on it for the same reason. This similarity to breast milk is definitely desirable — *from birth until weaning.*

A powdered modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butterfat is removed and to which has been added lactose, olive oil, coconut oil, corn oil, and fish liver oil concentrate.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

One level tablespoon of Similac powder added to *two* ounces of water makes *two* fluid ounces of Similac. This is the normal mixture and the caloric value is approximately 20 calories per fluid ounce.

SIMILAC } SIMILAR TO BREAST MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS, OHIO

For Circulatory and Respiratory Support during and after operation inject Metrazol intravenously

Metrazol Ampules
1 cc. and 3 cc.

Sterile Solution
30 cc. vials.



COUNCIL ACCEPTED

Metrazol, T. M. reg. U. S. Pat. Off.

BILHUBER-KNOLL CORP. - ORANGE, NEW JERSEY



North Shore Health Resort

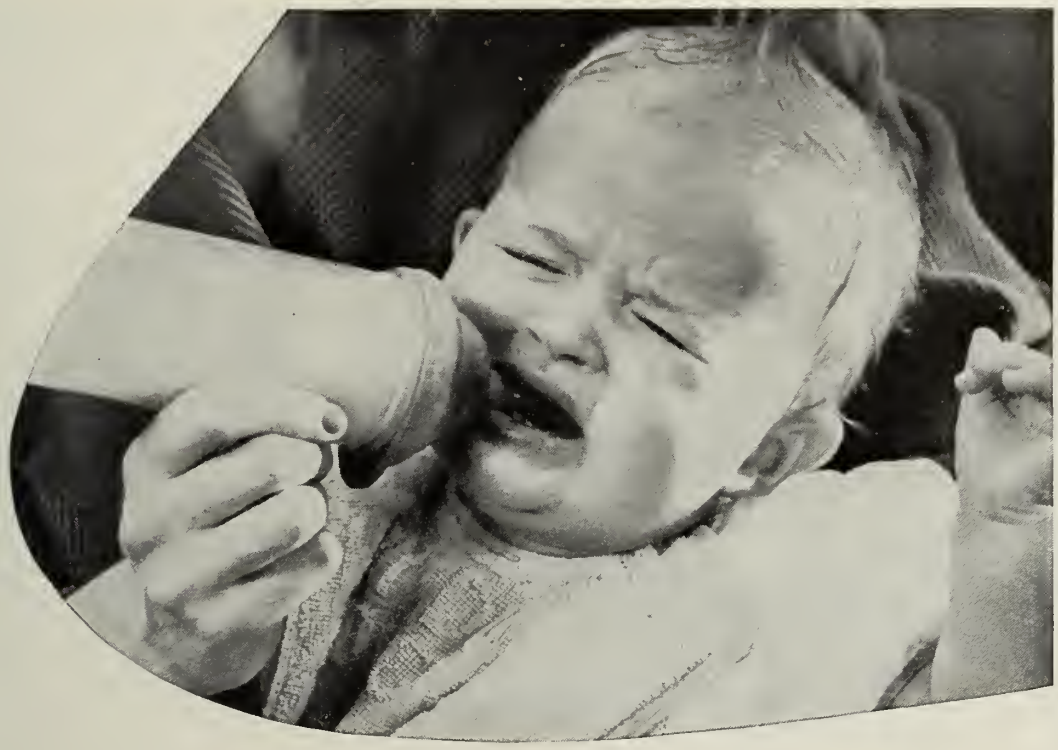
Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.
Medical Director

225 Sheridan Road — Phone Winnetka 211



Battle dress

Too often it's on with the bib, on with the battle! The fruitless struggle between mother and baby goes on at every feeding. Mealtime can again be "peace time" when 'Dexin' brand High Dextrin Carbohydrate helps form good feeding habits without the commando tactics that leave both mother and baby exhausted, upset.

'Dexin' helps assure uncomplicated feeding because its high dextrin content (1) diminishes intestinal fermentation and the tendency to colic and diarrhea, and (2) promotes the formation of soft, flocculent, easily digested curds. Palatable and not over-sweet, 'Dexin' encourages a healthy appetite. Readily soluble in hot or cold milk, it supplements other bland foods. 'Dexin' does make a difference.

'Dexin'

HIGH DEXTRIN CARBOHYDRATE

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available Carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.
'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9 & 11 East 41st St., New Yo 17, N. Y.

Satisfactory Menopause Relief

Schieffelin BENZESTROL

(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)

• Clinical tests have demonstrated that this synthetic estrogen successfully relieves the distressing emotional and vasomotor symptoms comprising the so-called menopausal syndrome.

Its rapid and effective action, as well as the low incidence of untoward side effects, offer the physician a dependable means of administering estrogenic hormone therapy with a high degree of satisfaction.

Literature and Sample on Request.

Schieffelin BENZESTROL Tablets:
Potencies of 0.5, 1.0, 2.0 and 5.0 mg.
Bottles of 50, 100 and 1000.

Schieffelin BENZESTROL Solution:
Potency of 5.0 mg. per cc. in 10 cc.
Rubber Capped Multiple Dose Vials

Schieffelin BENZESTROL Vaginal Tablets:
Potency of 0.5 mg. Bottles of 100.

Schieffelin & Co.

Pharmaceutical and Research Laboratories

20 COOPER SQUARE • NEW YORK 3, N. Y.



THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. BRINSON, M.D.
Medical Director

•

WALTER R. WALLACE
Business Manager

The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.



In Estrogenic Therapy ... TOLERANCE

One of the important advantages of "Premarin" lies in the fact that it is exceptionally well tolerated. Although highly potent, "Premarin" rarely produces unpleasant side effects—a statement which finds ample corroboration in the extensive bibliography. In "Premarin" the physician will find a medium for estrogenic therapy which is noted for its therapeutic effectiveness. "Premarin" is derived exclusively from natural sources and its administration is usually followed by what is invariably described by the patient as a general feeling of well-being.

ESSENTIALLY SAFE · HIGHLY POTENT · ORALLY ACTIVE
NATURALLY OCCURRING · WATER SOLUBLE
WELL TOLERATED · IMPARTS A FEELING OF WELL-BEING

"Premarin" *conjugated estrogens (equine)*
Reg. U. S. Pat. Off
TABLETS

Available in 2 potencies: No. 866 (the YELLOW tablet), in bottles of 20, 100 and 1,000 tablets.
No. 867 Half-Strength (the RED tablet), in bottles of 100 and 1,000 tablets.

Ayerst

AYERST, McKENNA & HARRISON LTD., 22 East 40th Street, New York 16, N. Y.

Postural Symptoms During Pregnancy Often Averted Or Relieved By A SPENCER SUPPORT



At left:
A Spencer antepartum support designed especially for this woman. Equally effective for postpartum period.

Abdominal support provides a rest for the weight of the abdomen and is accurately correlated with support to back, thus effecting marked posture improvement.

Light, flexible, easily adjusted to increasing development.

Note, also, the Spencer antepartum-postpartum breast support designed especially for her.

Spencer Supports meet your patients' needs exactly *because*: Each Spencer Support is individually designed, cut, and made at our New Haven Plant *after* a description of the patient's body and posture has been recorded and 15 or more measurements have been taken.

For a dealer in Spencer Supports look in telephone book under Spencer corsetiere, or write direct to us.

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxon.

May We Send You Booklet?

Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

Name ..... M.D.

Street .....

City & State V-2 46

SPENCER *INDIVIDUALLY DESIGNED* SUPPORTS
Reg. U.S. Pat. Off.
For Abdomen, Back and Breasts

COMMERCIAL ANNOUNCEMENTS

SCHENLEY LABORATORIES COMMENDED BY ARMY FOR RECORD IN PENICILLIN

Special commendation of its "splendid cooperation and untiring efforts" in the production of increasing quantities of penicillin vitally needed by the Armed Forces through the war period has been directed to Schenley Laboratories, Inc., in an official acknowledgment signed by Col. H. T. Marshall, of the Army Medical Purchasing Office, Army Service Forces, Office of the Surgeon General.

"Throughout this great conflict," Col. Marshall said, "the Medical Department has maintained a commendatory record of saving lives, preserving health and caring for the sick and wounded. We, of the Medical Department, fully realize what an important part your firm played in the development, production and delivery of supplies so vitally needed for the preservation of the lives of our fighting men and women."

FLYING AMBULANCE

A "flying ambulance" is the latest use of a twin-engined Cessna plane owned by Remmert Air Service, Lambert Field. The plane, equipped with stretcher and seats for doctor and nurse, is the postwar project of William Remmert, a former Navy production specialist. It is one of three planes owned by Remmert for special chartering service, and was used recently to fly an elderly Cuban sugar planter to St. Louis for throat surgery. The planes may be chartered for transportation of stretcher patients coming to St. Louis or going from St. Louis to available facilities elsewhere, and may prove valuable where hospital space is not available in the community for persons needing immediate hospitalization.



FOR MEN AND WOMEN!
A WORTHWHILE CAREER IN
LABORATORY TECHNIQUE

THE GRADWOHL SCHOOL OF LABORATORY TECHNIQUE is an ethical school, manned by competent ethical physicians and technologists and enjoys a high rating among the medical profession. . . . Gradwohl graduates, recognized as expert technicians, are in great demand for desirable positions.

Course includes—Clinical Pathology, Hematology, Serology, Applied Bacteriology, Basal Metabolism, Blood Chemistry, Electrocardiography, Parasitology, Tissue Cutting and Staining and X-Ray Technique.

ENROLL NOW for priority. 12 months course; 6 months internship. New classes start every 3 months.

33rd Successful Year

Write for Free Catalog

GRADWOHL SCHOOL OF LABORATORY TECHNIQUE

Under the Personal Supervision of
R. B. H. Gradwohl, M. D., Sc. D., Director
3514 Lucas Av. St. Louis, Mo.

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting February 25, and every two weeks thereafter. Four Weeks Course in General Surgery starting March 11.

One Week Surgery Colon and Rectum starting March 18 and April 29.

GYNECOLOGY—Two Weeks Intensive Course starting March 25. One Week Personal Course in Vaginal Approach to Pelvic Surgery starting February 18 and March 18.

OBSTETRICS—Two Weeks Intensive Course starting March 11.

PEDIATRICS—Four Weeks Intensive Course starting March 4.

MEDICINE—Two Weeks Intensive Course starting February 18 and April 8.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting April 8.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• **ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.**





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.



PRENATAL



ATROPHIC



HYPERTROPHIC

LITERATURE FOR YOUR PATIENTS WILL BE MAILED ON REQUEST

HYGIENIC REMEDIAL SUPPORT

FOR SPECIFIC BREAST CONDITIONS

Lov-é Brassieres

IN MORE THAN 500 BUST-CUP-TORSO SIZE VARIATIONS

Lov-e's highly specialized line of therapeutic breast supports enables the physician to prescribe remedial support for the individual patient with the complete assurance that the correct model indicated will be fitted from the more than 500 bust-cup-torso size variations available.

Special corrective models have been designed for specific breast conditions, such as, ptotic, atrophic, hypertrophic, prenatal, postnatal, amputation, and post-operative. Also available: sleeping brassieres, hospital binders, artificial breasts, anatomically designed muscle pads and maternity garter supports.

LOV-É PRODUCTS ARE EXPERTLY FITTED IN EXACT ACCORDANCE WITH THE PHYSICIAN'S PRESCRIPTION BY FACTORY-TRAINED LOV-É BRASSIERE TECHNICIANS

LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS

The Doctor *needs* a Champion

to listen to his troubles, counsel with him as he does with his patients, defend him to the last ditch, defeat unwarranted attacks upon him and save him from loss and worry through malpractice suits.

The Doctor *has* a Champion

in Medical Protective, which since 1899 has engaged in Professional Protection Exclusively, defending in more than 60,000 malpractice attacks and saving doctors endless worry and millions in losses.

℞

Specialized Service

The Medical Protective Company

of

Fort Wayne, Indiana



Styled for Individual Tastes

Neo-Synephrine for intranasal use is "styled" in three distinct forms too. All three provide the same real breathing comfort . . . prompt decongestion that endures for hours. Only the vehicles are different . . . isotonic saline, unflavored; Ringer's Solution, pleasantly aromatic; jelly in applicator tubes for convenience.

Neo-Synephrine

HYDROCHLORIDE

LAEVO-α-HYDROXY-β-METHYLAMINO-1-HYDROXY-ETHYLBENZENE HYDROCHLORIDE

For Nasal Decongestion

THERAPEUTIC APPRAISAL: Quick acting, long lasting . . . nasal decongestion without compensatory recongestion; relatively free from cardiac and central nervous system stimulation; consistently effective upon repeated use; no appreciable interference with ciliary activity; isotonic to avoid irritation.

INDICATED for symptomatic relief in common cold, sinusitis, and nasal manifestations of allergy.



ADMINISTRATION may be by dropper, spray or tampon, using the ¼% in saline or in Ringer's solution in most cases—the 1% in saline when a stronger solution is indicated. The ½% jelly in tubes is convenient for patients to carry.

SUPPLIED as ¼% and 1% in isotonic salt solution, and as ¼% in isotonic solution of three chlorides (Ringer's), bottles of 1 fl. oz.; ½% jelly in ⅜ oz. collapsible tubes with applicator.

Samples Upon Request

Frederick Stearns & Company

Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND.

Trade-Mark Neo-Synephrine—Reg. U. S. Pat. Off.

LOYAL PROTECTIVE LIFE INSURANCE COMPANY
BOSTON, MASS. **SINCE 1895**

NON-CANCELLABLE and GUARANTEED RENEWABLE INCOME PROTECTION

Policies with 6 Essential Features

Low Net Cost Retirement Income Contracts

W. A. Steward, Dist. Mgr.
7510 Delmar Ave.
St. Louis, Mo.

Lysle Kindig, Gen. Agt.
1202 Insurance Exch. Bldg.
Kansas City, Mo.

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913



In *Cheilitis* from LIPSTICK

Introctoble exfoliative lip dermatoses may often be traced to eosin lipstick dyes. Remove the offending irritonts, ond the symptoms often disoppeor. In lipstick hypersensitivity, prescribe AR-EX NON-PERMANENT LIPSTICK—so cosmetically desirable, yet free from all known irritants. *Send for Free Formulary.*

PRESCRIBE
℞
AR-EX
NON-PERMANENT
LIPSTICK

AR-EX COSMETICS, INC. 1036 W. VAN BUREN ST. CHICAGO 7, ILL.

THE MARY E. POGUE SCHOOL

For Retarded or Exceptional Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

51 Geneva Road Wheaton, Illinois Phone Wheaton 66

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

Zemmer
PRESCRIBE OR DISPENSE
ZEMMER PHARMACEUTICALS
A complete line of laboratory controlled ethical pharmaceuticals. Mo. 2-46
Chemists to the Medical Profession for 44 years.
THE ZEMMER COMPANY
Oakland Station • PITTSBURGH 13, PA.

BUY VICTORY BONDS

ALCOHOL—MORPHINE—BARBITAL
ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction — Individualized to Patient's Needs

THE RALPH SANITARIUM
529 Highland Ave. Kansas City, Mo.
Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262



ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death	**$ 8.00**
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	**$16.00**
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	**$24.00**
$75.00 weekly indemnity, accident and sickness	quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address

Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

INDEX TO ADVERTISERS

Abbott Laboratories 85
Ar-Ex Cosmetics, Inc. 143
Ayerst, McKenna & Harrison 137

Bilhuber-Knoll Corporation 134
Borden Company 88
Burroughs Wellcome & Co. 89, 135

Camel Cigarettes 83
Camp, S. H. & Co. 86
Chicago Medical Society 127
Ciba Pharmaceutical Products, Inc. ..... Insert
Cook County Graduate School of Medicine 139

Faith Hospital 145

Glenwood Sanatorium 145
Gradwohl School of Laboratory Technique 138

Hamilton-Schmidt Surgical Co. 144
Hanger, J. E., Inc. 146

Isle, W. E., Co. 145

Lilly, Eli and Co. 92
Lilly, Eli and Co. ..... Insert
Lov-E Brassiere Co. 140
Loyal Protective Life Insurance Co. 143

M & R Dietetic Laboratories, Inc. 133
Major Clinic Association 81
Mead Johnson & Co. 148
Medical Protective Co. 141
Milwaukee Sanitarium 117
Miscellaneous Announcements 146
Mosby, C. V. Co. 104
Mullen Ambulance Co. 143

National Dairy Products Corp. 122
National Pathological Laboratories 139
Norbury Sanatorium 139
North Shore Health Resort 134

Parke, Davis & Co. 78, 79
Philip Morris & Co., Inc. 118
Physicians Casualty Assn. 145
Pogue, Mary E., School 143
Producers Creamery Co. 120

Quincy X-ray & Radium Laboratories 144

Ralph Sanitarium 144
Robinson Clinic 143

Schenley Laboratories, Inc. 129
Schering Corp. 125
Schieffelin & Co. 136
Schmid, Julius, Inc. 114
Searle, G. D., & Co. 103
Smith-Dorsey Co. 123
Smith, Kline & French Laboratories 87, 132
Spencer, Inc. 138
Squibb, E. R. & Sons 147
Stearns, Frederick & Co. 142
Stokes Sanitarium 146

Upjohn Co. 91
U. S. Brewers Foundation, Inc. 128

Wallace Sanitarium 136
Warren-Teed Products, Co. 126
White Laboratories, Inc. 90
Winthrop Chemical Co. 107
Worrell, Dorothy 146
Wyeth, Inc. 108

Zemmer Co. 144

MISCELLANEOUS ANNOUNCEMENTS

Vahle Manor Convalescent Home—Private and semi-private rooms. All types convalescent or chronic cases cared for. Special attention given treatments and special diets. Rates reasonable. 5904 Cates, St. Louis, Mo. Telephone—PA 5161.

Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our **ALCOHOLIC** treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

BUY VICTORY BONDS



HANGER

(Patented)

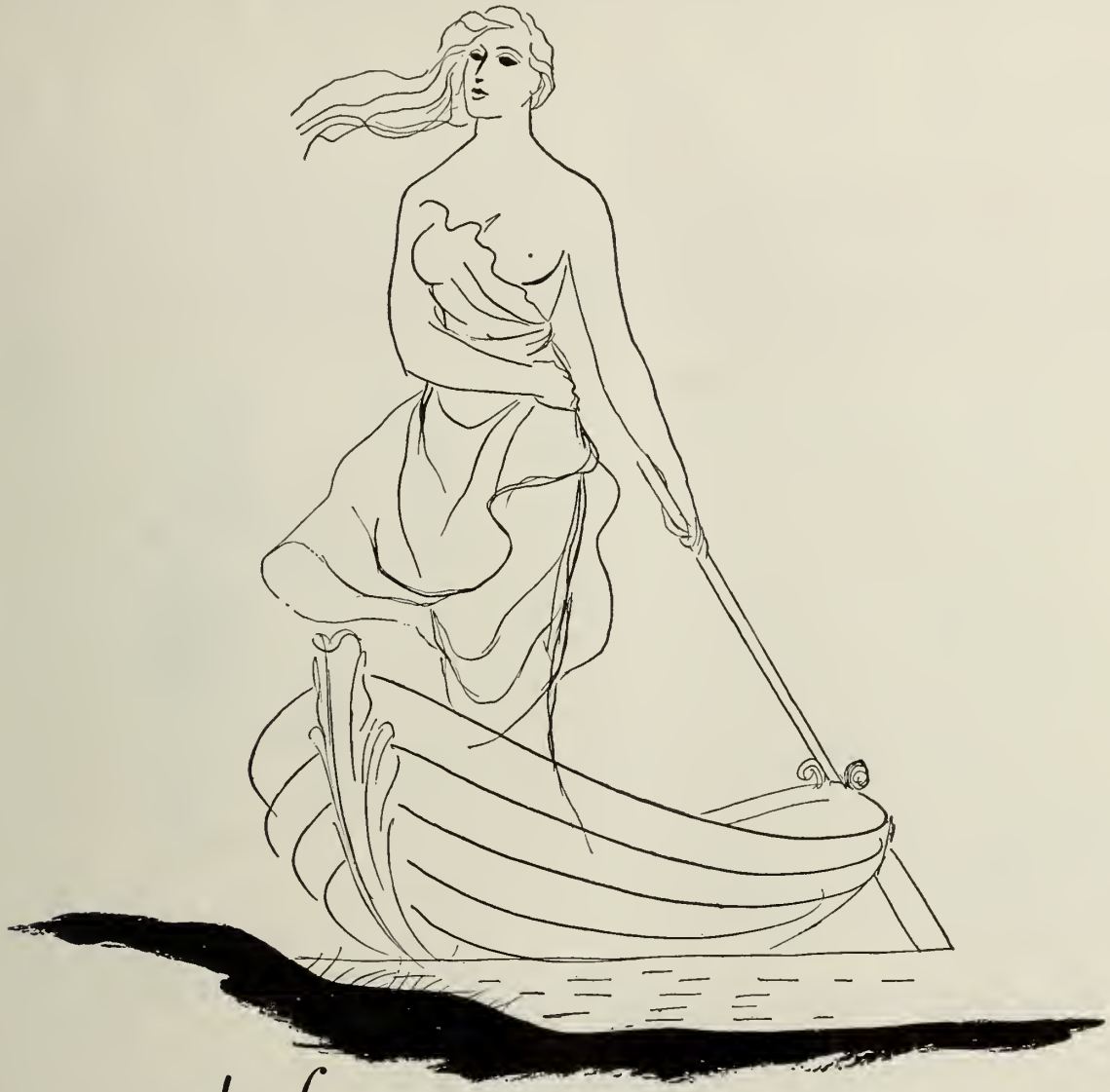
HIP CONTROL LEG

DURALUMIN AND WILLOW LIMBS
MECHANICAL ARMS
TRUSSES - CANES
CRUTCHES - INVALID CHAIRS

Illustrated Catalog On Request

J. E. HANGER, INC.

1912 Olive St.
Phone: Central 1088
St. Louis 3, Mo.



a natural refuge

A natural haven of calm—control of hot flushes, release from irritability, palpitation and dizziness—a renewed feeling of well-being for menopausal women.

For sixteen years Amniotin—a *natural* estrogen—has been bringing comfort and relief to harrassed women with surety and safety. A highly purified complex mixture of estrogens *derived from natural sources,* Amniotin is well tolerated and flexible in dosage. Available in parenteral, oral and intravaginal forms. Amniotin is standardized in International Units. And it is economical.

Amniotin
TRADEMARK

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

Boston Medical Library
8 Fenway

Old Way . . .

CURING RICKETS in the CLEFT of an ASH TREE

FOR many centuries,—and apparently down to the present time, even in this country—ricketic children have been passed through a cleft ash tree to cure them of their rickets, and thenceforth a sympathetic relationship was supposed to exist between them and the tree.

Frazer* states that the ordinary mode of effecting the cure is to split a young ash sapling longitudinally for a few feet and pass the child, naked, either three times or three times three through the fissure at sunrise. In the West of England, it is said the passage must be "against the sun." As soon as the ceremony is performed, the tree is bound tightly up and the fissure plastered over with mud or clay. The belief is that just as the cleft in the tree will be healed, so the child's body will be healed, but that if the rift in the tree remains open, the deformity in the child will remain, too, and if the tree were to die, the death of the child would surely follow.

*Frazer, J. G.: The Golden Bough, vol. 1, New York. Macmillan & Co., 1923.



It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

New Way . . .

Preventing and Curing Rickets *with* MEAD'S OLEUM PERCOMORPHUM

NOWADAYS, the physician has at his command, Mead's Oleum Percomorphum, a Council-Accepted vitamin D product which actually prevents and cures rickets, when given in proper dosage.

Like other specifics for other diseases, larger dosage may be required for extreme cases. It is safe to say that when used in the indicated dosage, Mead's Oleum Percomorphum is a specific in almost all cases of rickets, regardless of degree and duration.

Mead's Oleum Percomorphum because of its high vitamins A and D content is also useful in deficiency conditions such as tetany, osteomalacia and xerophthalmia.

COUNCIL-ACCEPTED: Oleum Percomorphum With Other Fish-Liver Oils and Viosterol. Contains 60,000 vitamin A units and 8,500 vitamin D units per gram and is supplied in 10 c.c. and 50 c.c. bottles; and in bottles containing 50 and 250 capsules.

MEAD JOHNSON & COMPANY, EVANSVILLE, INDIANA, U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 3

MARCH, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

The Use of Streptomycin in Tularemia

Intrathecal Penicillin in Treatment of Neurosyphilis

Barnes Hospital Case Reports

BOSTON
MAR 16 1946
MEDICAL LIBRARY

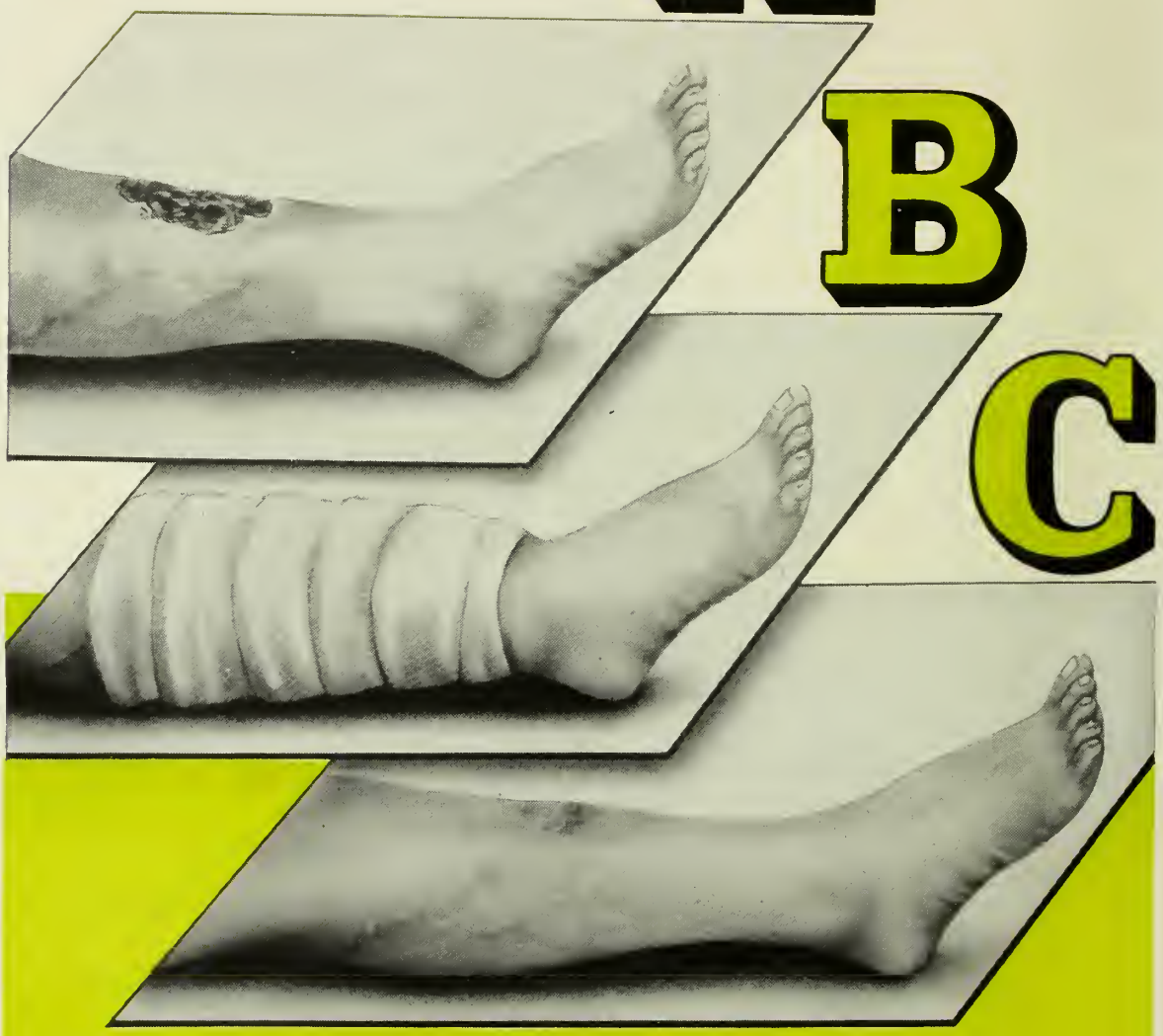
EDITORIALS

Annual Session

Infant Mortality

(Contents Index Page 153)

AS SIMPLE AS A B C



Supplied in 10 cc. and 50 cc. vials as a 2 per cent solution, to be diluted with sterile distilled water before use. Tyrothricin is intended for topical use only, and is not to be injected.

PARKE, DAVIS & COMPANY

DETROIT 32 • MICHIGAN



IS THE WET PACK TREATMENT

of superficial indolent ulcers and other skin lesions with TYROTHRICIN . . . a most important antibiotic agent.

TYROTHRICIN

used in wet packs or by irrigation, is effective against streptococcic, staphylococcic and pneumococcic infections of superficial tissues, deeper tissues made accessible by surgical procedures, and body cavities in which there is no direct communication with the blood stream.

Hotel Reservations for the Annual Session

Jefferson Hotel, St. Louis — March 24, 25, 26, 1946

Because of the limited hotel accommodations available for conventions it will be necessary to clear all reservations through the housing bureau and reservations should be made early. Reservations for rooms to be occupied by two or more persons will assist in the housing of all attending the session. Hotel rates follow:

Hotel	For One Person	For two Persons		
		Double Bed	Twin Beds	Two Room Suites
Claridge	$3.00-$4.00	$4.-$6.50	$5.00-$6.50	$10.00 & up
Coronado	3.00 & up	5.00 & up	6.00 & up	8.00-13.00
DeSoto	2.65- 7.00	4.00- 7.00	5.30-10.00	10.00
Jefferson	3.50- 5.00	4.50- 6.00	6.00- 8.00	12.00-20.00
Majestic	2.00- 2.25	2.75- 3.25	4.00	
Melbourne	3.20- 4.20	5.30- 6.80	5.30- 7.30	

All Reservations Must Be Received Not Later Than March 14, 1946

Housing Bureau, Missouri State Medical Ass'n.
910 Syndicate Trust Building
St. Louis 1, Mo.

Please reserve the following accommodations for the Missouri State Medical Ass'n., March 24-26.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED.

Single Room.....Double Bedded Room.....Twin Bedded Room.....
2 Room Suite.....Other Type of Room.....
Rate: From $..... to $.....

First Choice Hotel.....
Second Choice Hotel.....
Third Choice Hotel.....

Arriving at Hotel (date) .....hour ..... A.M. ..... P.M. Leaving (date) ..... hour ..... A.M. .....P.M.

Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

.....

.....

.....

(Individual Requesting Reservations)

Name .....
Address .....
City and State .....

If the hotels of your choice are unable to accept your reservation the Housing Bureau will make as good a reservation as possible elsewhere providing that all hotel rooms available have not already been taken.

CONTENTS

The Use of Streptomycin in Tularemia. Oliver Abel, Jr., M.D., St. Louis 167

Intrathecal Penicillin in Treatment of Neurosyphilis. A Preliminary Report. Samuel H. Rubin, M.D., and Cecil G. Leitch, M.D., Kansas City, Mo. 169

Case Reports of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 171

Abstracts and Digests—

Tuberculosis Abstracts 178

Editorials—

Annual Session 181

Infant Mortality 181

News Notes 181

Physicians Returned From Military Service 182

Organization Activities 187

Woman's Auxiliary 205

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Herman L. Kretschmer, Chicago.
President-Elect, Roger I. Lee, Boston.

MISSOURI STATE MEDICAL ASSOCIATION

88th Annual Session, St. Louis
March 24, 25, 26, 1946

President, A. S. Bristow, Princeton.

Vice Presidents, Robert Mueller, St. Louis; F. T. H'Doubler, Springfield; W. L. Brandon, Poplar Bluff.

Speaker, E. J. Schisler, St. Louis; Vice Speaker, Stanley P. Howard, Jefferson City.

Treasurer, C. E. Hyndman, St. Louis.

Secretary-Editor, R. L. Thompson, St. Louis.

Business Manager-Assistant Editor, Helen Penn, St. Louis.

Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1944-1946; alternate, M. Pinson Neal, Columbia. W. L. Allee, Eldon, 1944-1946; alternate, W. A. Bloom, Fayette. Robert E. Schlueter, St. Louis, 1943-1945; alternate, J. Frank Jolley, Mexico. James R. McVay, Kansas City, 1943-1945; alternate, H. L. Kerr, Crane.

Standing Committees

Scientific Work—Harry C. Lapp, Kansas City, Chairman (1946); Nathan A. Womack, St. Louis (1945); Ralph L. Thompson, St. Louis.

Postgraduate Course—Raymond Muether, St. Louis, Chairman (1945); David LeMone, Columbia (1946); G. T. Bloomer, St. Joseph (1946); Guy D. Calloway, Springfield (1947).

Publication—R. L. Thompson, St. Louis, Chairman; W. A. Bloom, Fayette; Robert Mueller, St. Louis; J. William Thompson, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis (1946); W. Merritt Ketcham, Kansas City (1947); Robert Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1945).

Defense—Charles E. Hyndman, St. Louis, Chairman (1945); O. B. Zeinert, St. Louis (1946); L. P. Forgrave, St. Joseph (1946); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1946); F. L. Kneibert, Poplar Bluff (1946); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947); James R. McVay, Kansas City (1945).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1946); Paul F. Cole, Springfield (1946); David S. Dann, Kansas City (1945).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1946); C. A. W. Zimmermann, Cape Girardeau (1946); W. F. Francka, Hannibal (1947); Ira H. Lockwood, Kansas City (1945).

Mental Health—B. Landis Elliott, Kansas City, Chairman (1946); Frank M. Grogan, St. Louis (1946); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947); Ralf Hanks, Nevada (1945).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1946); Buford G. Hamilton, Kansas City (1946); J. Milton Singleton, Kansas City (1947); H. B. Goodrich, Hannibal (1947); Joseph D. James, Springfield (1945).

Infant Care—U. J. Busiek, Springfield, Chairman (1945); Park J. White, St. Louis (1946); E. H. Schorer, Kansas City (1946); Damon O. Walthall, Kansas City (1945); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1946); Grayson Carroll, St. Louis (1946); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1945).

Constitution and By-Laws—O. S. Gilliland, Kansas City, Chairman (1947); B. Landis Elliott, Kansas City (1947); Joseph C. Peden, St. Louis (1946); G. T. Bloomer, St. Joseph (1946); H. L. Mantz, Kansas City (1945).

Fractures—Frank D. Dickson, Kansas City, Chairman (1946); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947); James D. Horton, Springfield (1945); J. R. Elliott, Kansas City (1945).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1946); Philip S. Luedde, St. Louis (1945); Robert S. Minton, St. Joseph (1946); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1946); Arthur W. Neilson, St. Louis (1946); W. S. Sewell, Springfield (1945); C. T. Ryland, Lexington (1947); Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1945); E. C. Funsch, St. Louis (1946); E. M. Fessenden, St. Louis (1947); R. R. Oglevie, Kansas City (1945); J. E. Castles, Kansas City (1946).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); C. A. W. Zimmermann, Cape Girardeau (1947); John L. Washburn, Versailles (1946); Frank L. Feierabend, Kansas City (1945); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; W. W. Buckingham, Kansas City; J. L. Mudd, St. Louis (1945).

Study of Cardiac Diseases—J. DeVoine Guyot, Jefferson City, Chairman (1945); A. Graham Asher, Kansas City (1946); Julius Jensen, St. Louis (1947); E. J. Schisler, St. Louis (1945); Horace W. Carle, St. Joseph (1946).

Postwar Planning—M. Pinson Neal, Columbia, Chairman; Robert Mueller, St. Louis; Ira H. Lockwood, Kansas City (1945).

Adviser to Woman's Auxiliary—H. L. Mantz, Kansas City.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

W. A. BLOOM, Fayette, Chairman

H. B. GOODRICH, Hannibal, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, H. B. Goodrich, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, R. B. Denny, Creve Coeur. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, Wm. A. Bloom, Fayette. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Herbert L. Mantz, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.

"don't smoke"...

IS ADVICE HARD FOR PATIENTS TO SWALLOW!

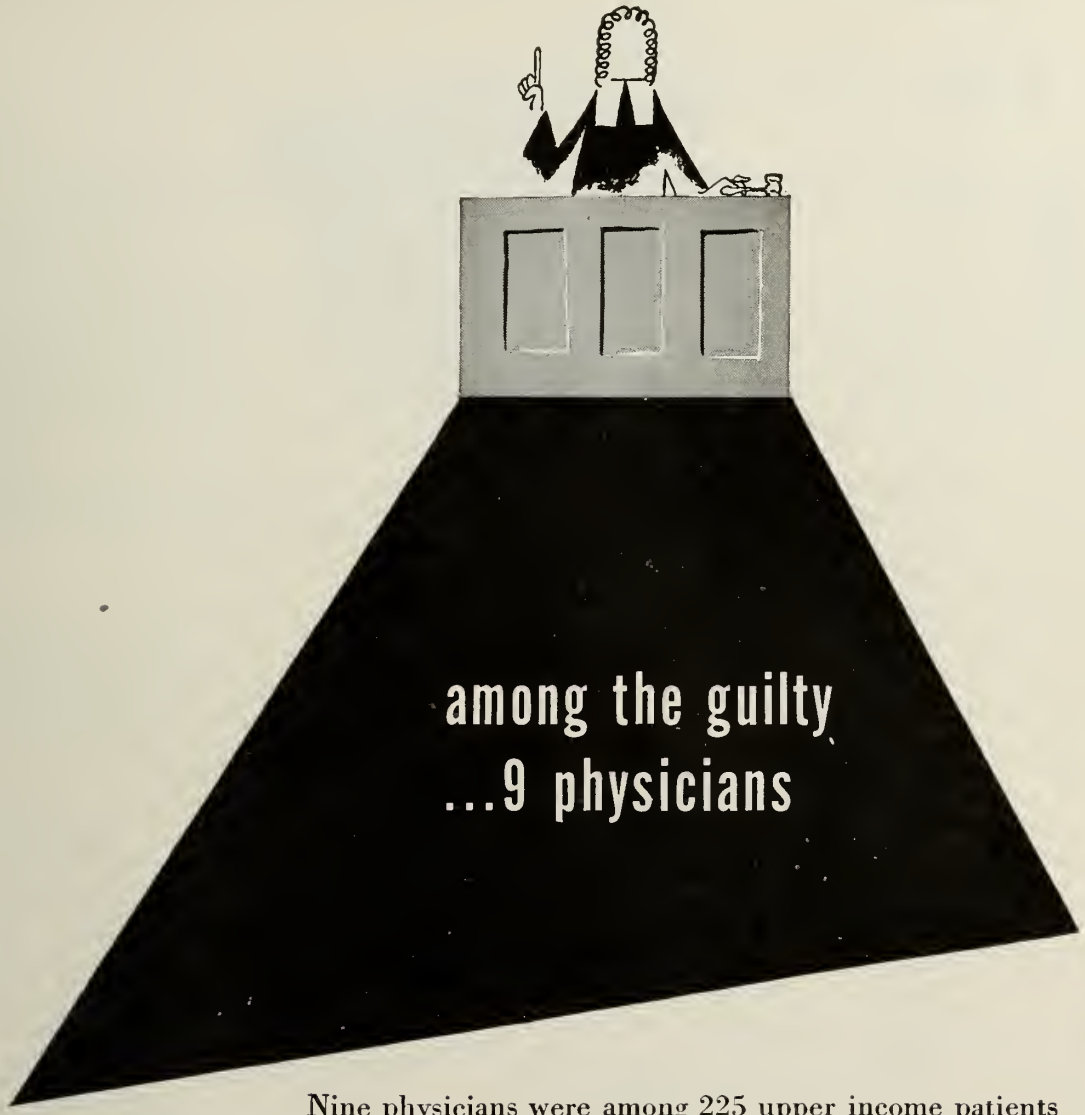
May we suggest, instead, *SMOKE "PHILIP MORRIS"?* Tests* showed 3 out of every 4 cases of smokers' cough cleared on changing to PHILIP MORRIS. Why not observe the results for yourself?

*Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Alfred Collier	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1			W. G. Atwood	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1				
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	R. R. Cutler	Washington	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	D. L. Coffman	Fayette	J. W. Gardner	Glasgow
Jackson	7	Fred B. Kyger	Kansas City	Frank B. Leitz	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto		
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	H. S. Harris	Troy	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	E. J. T. Anderson	Montgomery City	J. O. Helm	New Florence
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	J. R. Chapman	Steele	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon		
St. Francois-Iron-Madison-Washington-Reynolds	10	W. Harry Barron	Frederickstown	John W. Hunt, Jr.	Leadwood
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Wm. J. Cremer	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



Nine physicians were among 225 upper income patients found guilty of diets wanting in one or more vitamins. Low-vitamin diets are not restricted by income or by intelligence.[2] Greater assurance of adequate vitamin maintenance is available in potent, easy to take, and reasonably priced Upjohn vitamin preparations.

1. New England J. Med. 228:118 (Jan. 28) 1943.
2. J. A. M. A. 129:613 (Oct. 27) 1945.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS

PROTEIN

*"As a Prophylactic and Therapeutic Agent"**

"There are many opportunities for practical dietary application of the advances in our understanding of protein economy. The provision of liberal protein diets in instances where the value of protein has been demonstrated offers both prophylactic and therapeutic advantages to the patient."

PREGNANCY AND LACTATION

"Protein is one of the essentials for which there is greater need.... The growth needs of the fetus must be met and if adequate dietary protein is not supplied, the mother's protein stores will be drained. . . . The demands for protein during lactation are even greater.... One further reason for providing a liberal supply of protein... lies in the favorable effect which protein has upon calcium absorption."

DISEASES OF THE KIDNEY

"... actual improvement in the well-being of nephritic patients may be observed following the use of high-protein diets both in adults and children. In some instances functional capacity of the kidneys has been reported to improve on such a regime.... For the treatment of nephrosis the same dictum holds true, only to a greater extent...."

DISEASES OF THE LIVER

"For many years carbohydrate alone has been considered the one substance capable of providing protection for the liver cells. ... Protein has now been shown to be considerably more effective in this respect. ... The effect of protein on the liver is not only reparative, but also definitely protective against the agents known to be toxic to the liver...."

PEPTIC ULCER

"... a rather high incidence of moderate hypoproteinemia in peptic ulcer cases has been reported. Any ulcer, be it peptic, infectious, or the result of pressure and circulatory changes, represents a loss of tissue and requires protein for rebuilding...."

OTHER CONDITIONS

"In old age, for instance, all too often the food intake deteriorates to soft foods of limited variety.... Yet in such instances the same protein requirements for maintenance of the numerous body functions are still in effect.... Protein may also be lost because of its excessive breakdown under the influence of fever or heightened body metabolism, and negative nitrogen balances may develop, as for instance in hyperthyroidism....

"With the demonstration of this increased importance of protein dietetic therapy, it can only be recommended that there be an increased use of high-protein diets."

Among the protein foods of man meat ranks high not only because of the percentage of protein contained, but primarily because the protein of meat is of high biologic quality, applicable for every protein need.

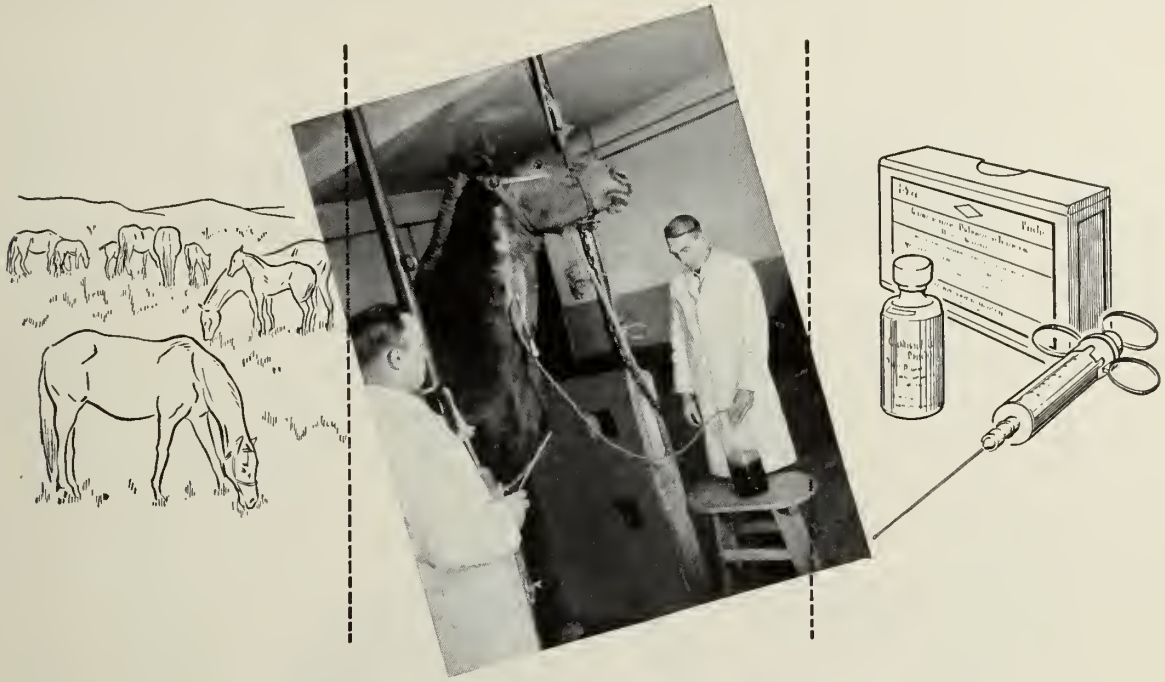
*Anderson, Geo. K., M.D.: *The Importance of Protein in Diet Therapy,* J. Am. Dietet. A. 21:436 (July-August) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES



"NOT HOW MUCH... BUT HOW WELL"

U. S. STANDARD PRODUCTS CO.

BIOLOGICALS

AMPULS AND STERILE SOLUTIONS FOR PARENTERAL ADMINISTRATION

An ideal location in a small rural community favors concentration on the important work in which we specialize—

Patented processes confer distinct therapeutic advantages—

Methods and thinking based upon the advanced frontiers of progress—

—These are factors contributing to the established acceptance of U. S. Standard Products by those of the medical profession who have come to regard them as essential.

U. S. Standard Products are now available at leading pharmacies throughout most of the United States. May we send you detailed information?

OUTSTANDING U. S. STANDARD BIOLOGICALS:

DIPHTHERIA TOXOID
SMALLPOX VACCINE
TETANUS ANTITOXIN
TYPHOID VACCINE

Also a representative list of glandular products and pharmaceuticals.

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.

Be Sure

CORAMINE 5cc.

Is In Your Bag



BE SURE it's in *your* bag! Confidence in meeting the ever-present possibility of respiratory failure is assured when you know that you have the 5 cc. ampuls of Coramine with you. Prompt, powerful respiratory stimulation results from intravenous dosage of 5 cc. or more. Coramine's low toxicity, assuring a wide margin of safety, allows repetition of this dosage in cases where initial clinical response is not adequate.

CORAMINE—*Trade Mark Reg. U. S. Pat. Off.*

CIBA PHARMACEUTICAL PRODUCTS, INC.

SUMMIT · NEW JERSEY

Ciba

Steroid Hormones · Fine Pharmaceuticals



8 therapeutic hours

Ipral is useful in all types of insomnia. Its gentle action induces sleep gradually and prolongs it for a full six to eight hour period. After what closely resembles a normal night's sleep, the patient awakens generally calm and refreshed. Prescribe one or two tablets of Ipral Calcium (calcium ethylisopropyl barbiturate) *one hour before retiring.* Plain, unmarked, unidentifiable.

Ipral
TRADEMARK CALCIUM

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

Important Publications in MEDICINE & SURGERY

See these books on display at the Mosby Booth, #9 St. Louis, March 24-26

MOSBY

Key & Conwell's **FRACTURES, DISLOCATIONS AND SPRAINS**—1322 pages, 1300 illustrations. Fourth Edition. Price, $12.50

Hardy's **SYNOPSIS OF DIAGNOSIS OF SURGICAL DISEASES OF THE ABDOMEN**—526 pages, 100 illustrations. 2nd Edition. Price, $5.00

Dodson's **SYNOPSIS OF GENITOURINARY DISEASES**—313 pages, 112 illustrations. 4th Edition. Price $3.50

Crossen & Crossen's **SYNOPSIS OF GYNECOLOGY**—256 pages, illustrated. 3rd edition. Price, $3.00

Gradwohl's **CLINICAL LABORATORY METHODS AND DIAGNOSIS**—In Two Volumes. 2230 pages, 726 illustrations. 3rd Edition. Price, $20.00

Kleiner's **HUMAN BIOCHEMISTRY**—573 pages, 70 illustrations, 5 color plates. Price, $6.00

Sadler's **MODERN PSYCHIATRY**—896 pages. Price, $10.00

Karnosh & Zueker's **HANDBOOK OF PSYCHIATRY**—302 pages, 40 illustrations. Price, $4.50

Titus' **MANAGEMENT OF OBSTETRIC DIFFICULTIES**—1000 pages, 426 illustrations, 8 color plates. 3rd Edition. Price, $10.00

Crossen & Crossen's **OPERATIVE GYNECOLOGY**—1076 pages, 1262 illustrations. 5th Edition. Price, $12.50

Crossen & Crossen's **DISEASES OF WOMEN**—948 pages, 1127 illustrations, 45 color plates. Revised Reprint of 9th Edition. Price, $12.50

Main's **SYNOPSIS OF PHYSIOLOGY**—341 pages, 21 illustrations. Price, $3.50

Meakins' **PRACTICE OF MEDICINE**—1450 pages, 517 illustrations, 48 color plates. 4th Edition. Price, $10.00

Clendening-Hashinger's **METHODS OF TREATMENT**—1033 pages, 138 illustrations. Revised Reprint of 8th Edition. Price, $10.00

Thewlis' **CARE OF THE AGED**—504 pages, 67 illustrations. 5th Edition. Price, $8.00

Clarke's **FACIAL AND BODY PROSTHESIS**—200 pages, 75 illustrations. Price, $5.00

Use Coupon to Order

THE C. V. MOSBY COMPANY MOJ 3/46
3207 Washington Blvd.
St. Louis 3, Mo.

Gentlemen: Send me the following book(s) .....

.....

.... Attached is my check. .... Charge my account.

Dr. .....

Address .....



There is a Doctor in the House

—and it took a minimum of $15,000 and 7 years' hard work and study to get him there!

● Proudly he "hangs out his shingle," symbol of his right to engage in the practice of medicine and surgery. But to a doctor it is more than a right: it is a privilege — the privilege of serving mankind, of helping his fellow man to a longer, healthier, and happier life.

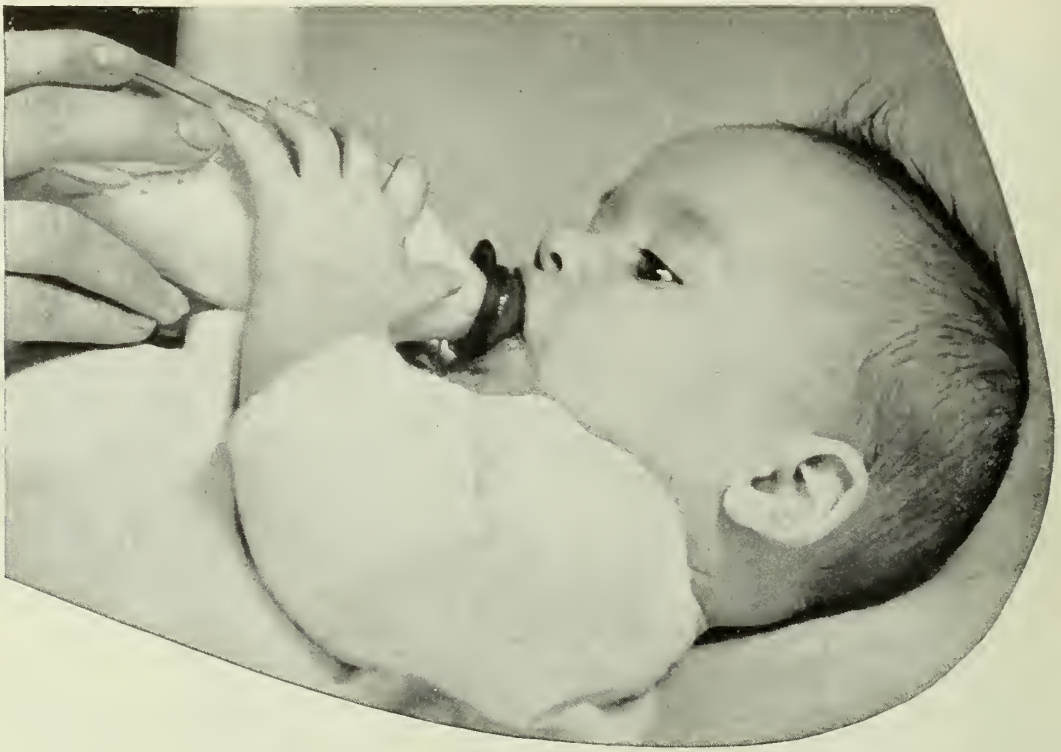


According to a recent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.



Silencer for midnight phones

When pediatricians prescribe 'Dexin' brand High Dextrin Carbohydrate for their infant patients, the physicians are no longer wakened so frequently by frantic late-night phone calls. Because of the high dextrin content, 'Dexin' feedings tend to (1) diminish intestinal fermentation and the resultant colic and diarrhea and (2) promote the formation of soft, flocculent, easily digested curds.

'Dexin' babies sleep more soundly, physicians' phones jangle less, and the doctor himself obtains more undisturbed sleep. Not unpalatably sweet, 'Dexin' is readily soluble in hot or cold milk or other bland fluids. 'Dexin' does make a difference.

'Dexin'

HIGH DEXTRIN CARBOHYDRATE

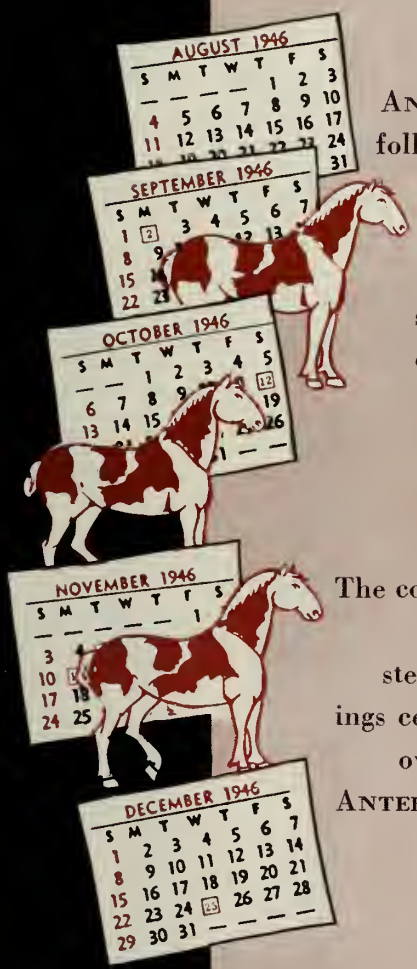
Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available Carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

Between the 40th and 140th day



ANTERON. Schering's anterior pituitary-like hormone with follicle-stimulating activity is obtained from the serum of pregnant mares between the fortieth and one hundred and fortieth day of gestation — when the hormone content is maximum. A potent preparation is thereby secured from which the gonadotrophic hormone can be economically extracted. A special refining process practically frees ANTERON of proteins and other allergens.

ANTERON

The combination of potency and safety in ANTERON is therefore of special importance when therapeutic effort in sterility, amenorrhea and certain functional uterine bleedings centers about inducing ovarian follicle stimulation and ovulation.

ANTERON is again available and may be obtained through your regular source of supply for ethical products.

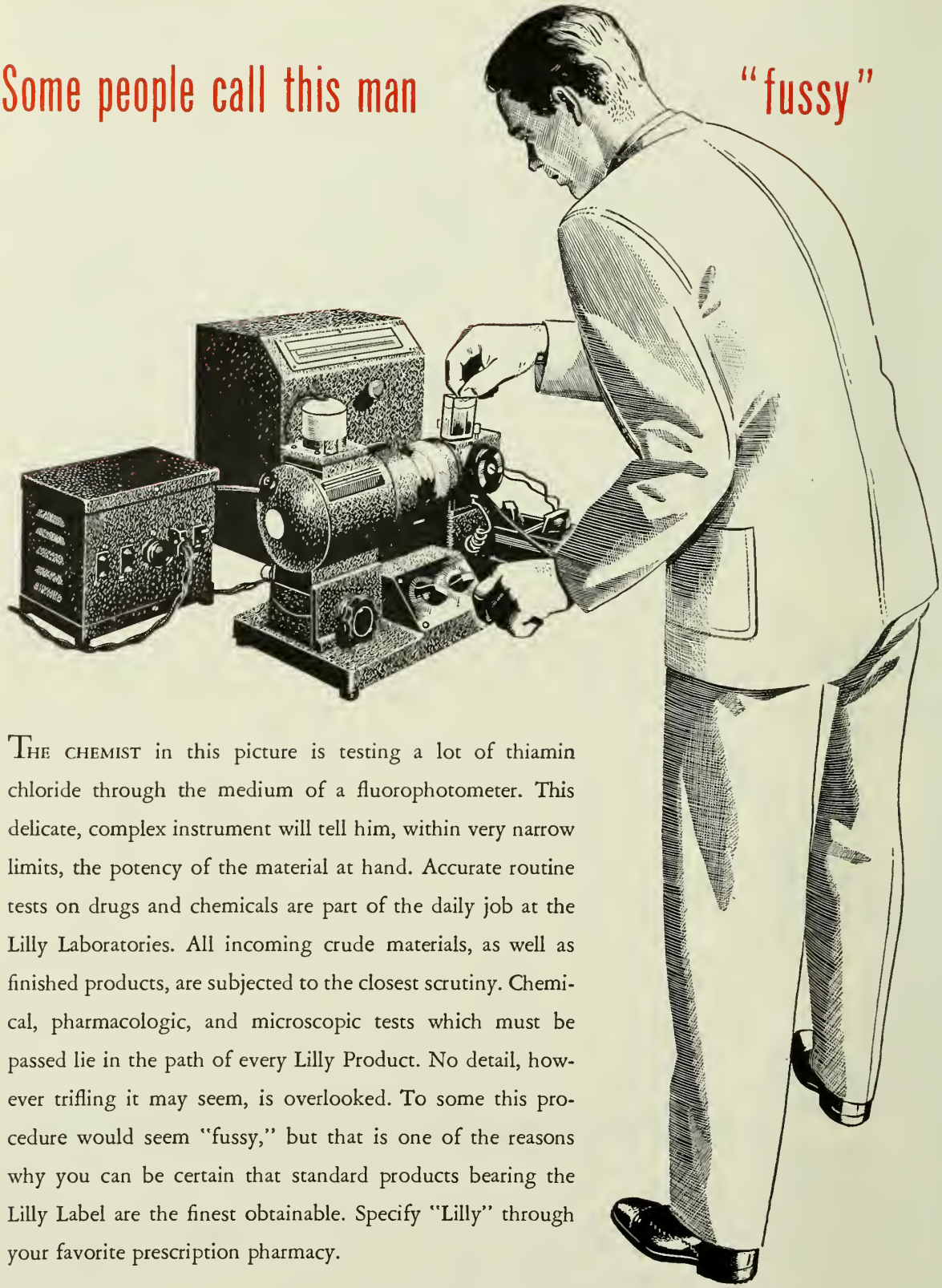
TRADE-MARK ANTERON—REG. U. S. PAT. OFF.

SCHERING

Schering CORPORATION • BLOOMFIELD, N. J.

IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

Some people call this man "fussy"



THE CHEMIST in this picture is testing a lot of thiamin chloride through the medium of a fluorophotometer. This delicate, complex instrument will tell him, within very narrow limits, the potency of the material at hand. Accurate routine tests on drugs and chemicals are part of the daily job at the Lilly Laboratories. All incoming crude materials, as well as finished products, are subjected to the closest scrutiny. Chemical, pharmacologic, and microscopic tests which must be passed lie in the path of every Lilly Product. No detail, however trifling it may seem, is overlooked. To some this procedure would seem "fussy," but that is one of the reasons why you can be certain that standard products bearing the Lilly Label are the finest obtainable. Specify "Lilly" through your favorite prescription pharmacy.

Lilly

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 | MARCH, 1946 | NUMBER 3

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

THE USE OF STREPTOMYCIN IN TULAREMIA

OLIVER ABEL, JR., M.D.
ST. LOUIS

Tularemia is an infectious disease occurring in practically all wild rodents. Human beings contract the disease while dressing the carcasses of infected animals, through the bites of flies or ticks which act as vectors, through ingestion of insufficiently cooked meat of infected animals, possibly through the inhalation of the causative organism, or through the lacrimal duct and nasal passages. The causative organism is Pasteurella tularensis and it has been found in streams and ponds, so the disease may be water borne. The disease in man was described by Francis in 1919, and by now is probably nation-wide in distribution as well as occurring in other parts of the world.

The disease may manifest itself in several types: the ulceroglandular, the typhoidal, the pneumonic, the ophthalmic, the oral and abdominal, and meningeal; a combination of the types may occur in the same individual.

The incubation period is short, generally from two to four days. The mortality is low, but the morbidity is high. This has led to the development of an effective therapeutic agent. A voluminous literature has accumulated for the treatment of tularemia; its significance being that as yet there is nothing that can withstand critical evaluation. Serum has had the more extensive clinical trials. The work of Foshay,[1] in clinical trials, and of Francis and Felton,[2] in experimental trials, has led to opposite conclusions. Foshay believed that serum effected a significant reduction in both mortality and morbidity. Francis and Felton found no evidence of protective effect of serum in experimental animals.

Bell and Kahn[3] studied the effect of the many therapeutic agents used in the treatment of tularemia on experimental animals. The following agents were tested: sulfanilamide, sulfadiazine, sulfamerazine, acriflavine, metaphen, iodide and bismuth, arsenic and bismuth, mapharsen, antimony, penicillin and hyperimmune serum. It was their opinion that the results of these measures do not demonstrate any advantage in employing these drugs therapeutically.

Streptomycin was described in January 1944 by Schatz, Bugie and Waksman.[4] It seems to be the most promising of the antibiotic agents derived from Actinomycetes. It seemed likely from the reports of these investigators that this agent would be effective against gram-negative bacteria, as well as some gram-positive agents. With the exception of streptothricin, antibiotic agents previously available were for the most part primarily effective against gram-positive organisms, progressing only feeble action against gram-negative organisms.

Reimann[5] was the first to report on the clinical use of streptomycin. He reported five cases of typhoid fever in which streptomycin was used. Hinshaw and Feldman[6] used it in tuberculosis. They concluded that streptomycin exerted a limited suppressive effect on some type of tuberculosis.

Heilman[7] experimented on the use of streptomycin in mice that were infected with tularemia. He inoculated a group of mice with the Pasturella tularensis, and all the mice in this group died. Another group of mice inoculated with Pasturella tularensis were given streptomycin. All the mice in this group survived and twenty-seven days later autopsies performed on these mice showed no evidence of the bacteria in the spleens.

Work has been done to show that streptomycin, after systemic administration, is absorbed readily and reaches the general circulation. It is excreted readily by the kidneys. Following parenteral administration the level in the blood serum reaches a peak in the first and second hours and gradually falls off. It appears to be excreted through the bile

The streptomycin used in the study of these cases was supplied by the Abbott Laboratories, North Chicago, Illinois, who were most cooperative and generous in supplying the medicine and offering valuable suggestions.

and is concentrated in the bile. In the presence of meningitis, appreciable amounts appear in the cerebrospinal fluid. It does not diffuse readily into the cerebrospinal fluid unless there is disease of the meninges. There appears to be little or no evidence of toxicity following the administration of therapeutically effective amounts of this substance.

Harrell[8] reported the use of streptomycin in forty-five clinical cases. Included in his report are eight cases of bacteriemia, in which recovery occurred in six. Doubtful results were obtained in two cases of undulant fever associated with bacteriemia. Good results were obtained in ten of thirteen cases of moderately severe infections of the urinary tract due to a variety of organisms. It was also used in a variety of other infections with variable results.

Following are the report of three cases of tularemia treated with Streptomycin:

REPORT OF CASES

Case 1. R. P., aged 38 years, while skinning a rabbit punctured the finger with a bone of the rabbit. Two days later a sore developed on the finger and the patient had chills and fever. The patient was seen at the DePaul Hospital the fourth day of the disease. Examination showed the temperature as 101.5 F. The patient complained of generalized malaise. There was a chronic ulcerated lesion on the first finger of the right hand and axillary glands were the size of walnuts. The lungs were clear and otherwise the physical examination revealed nothing of note. The urine, Kahn reaction and twenty-four hour blood culture were negative. The initial agglutination test for tularemia was negative. The blood picture showed red blood cells 4,510,000, Hb. 87 per cent, white blood cells 8,850, differential: stabs 16, segments 55, lymphocytes 24, mononuclears 5. The agglutination for tularemia became positive on the fourteenth day and was positive in a dilution of 1-640. The temperature ranged from 100 F. to 103 F. The lesion on the finger and the axillary glands remained the same.

Four days after admission, the patient complained of pains in the left chest posteriorly. Examination revealed some diminution of breath sounds and a few rales. Roentgenogram showed small condensed lung areas above the diaphragm on the left side due to a localized infectious process. Streptomycin was started on the seventh day after admission, the eleventh day of the disease, one million units being administered each twenty-four hours in divided doses given intramuscularly every four hours. This was given for seven days. Twenty-four hours after streptomycin was started, the temperature reached normal and remained so. The lesion of the finger started to clear and was completely healed in one week. The axillary glands subsided and could not be palpated at the time of discharge. The pain in the chest subsided and the lung condition cleared up completely. The patient was discharged three days after streptomycin was stopped, feeling well and with no symptoms. Six weeks after discharge, the patient felt well, complained of no symptoms. the finger was healed and the temperature was normal. It is interesting to note that the lymph glands did not break down nor was it necessary to drain them.

Case 2. P. M., male, aged 39, was similar to case 1, being of the ulcerglandular type. The patient was dressing rabbits and on the third day following developed chills and fever and was admitted to St. Louis City Hospital. This patient was seen through the courtesy of Dr. James Stout, the resident physician on the division. There was an ulceration on the index finger of the left hand and the axillary glands were the size of walnuts. The glands increased in size until one was the size of an egg. The temperature on admission was 105 F. and fluctuated between 101 F. and 102½ F. Sulfadiazine was given on admission and agglutination tests for tularemia were negative. The history of exposure and the clinical course of the disease justified the diagnosis of tularemia. Streptomycin was started on the eighth day of the disease. It was given, one million units daily in divided doses every four hours, for two days only. The temperature returned to normal thirty-six hours after streptomycin was started and remained normal during the remaining stay in the hospital. The lesion on the finger healed, the glands in the axillae reduced in size without drainage and finally disappeared. He felt better and two weeks later was discharged as well and has remained so one month later.

The agglutination for tularemia became positive in dilution of 1:80 on the thirteenth day of the disease and positive in dilution of 1:130 on the seventeenth day. Inasmuch as the clinical use of streptomycin in tularemia is scant, the yardstick of dosage has not been established. On this basis, only two million units were administered to this patient and the results were just as good as in the previous patient who received seven million units.

Case 3. Mrs. L. F., aged 33, was a case of tularemia with pulmonary involvement. This was a patient of Dr. C. A. Schmidt, treated in St. Francis Hospital, Washington, Missouri. I had the opportunity of seeing this patient through the courtesy of Dr. Schmidt. Three days after skinning rabbits and puncturing a finger with a bone, the patient developed a sore on the second finger of the right hand with lymphadenopathy of the right axilla. This was accompanied by chills and fever. On the eighth day of the disease, Dr. Schmidt saw the patient and sent her to the hospital. At that time the temperature was 104 F. and the patient was quite ill. The pulse was 140 and the respiration 40. The urine showed albumin 2 plus. The blood picture was: red blood cells 4,280,000, white blood cells 10,200, Hb. 76 per cent, differential: segments 70, stabs 6, small lymphocytes 23, mononuclears 1. The blood culture was negative.

The agglutination test for tularemia was positive at a dilution of 1:640 on the sixteenth day of the disease. On the seventeenth day of the disease, there were signs of consolidation in the base of the right lung. The temperature during the stay in the hospital ranged from 102 F. to 104 F. The pulse ranged from 140 to 160 per minute. The patient was five months pregnant and was considered in extremis.

Three days later streptomycin was started, using one million units each twenty-four hours, the dose being divided into six equal doses, one of which was given every four hours intramuscularly. Within twenty-four hours the patient felt better; the temperature started to drop, reaching normal after forty-eight hours and fluctuated between 98 F. and 100 F. for six days. Fluid developed in the right chest. Thoracentesis of the chest produced 1,000 cc. of straw colored fluid, culture of which was negative. After the thoracentesis, 166,666 units of streptomycin were introduced into the pleural cavity. Streptomycin was continued for eight days, using one million units each twenty-four hours. The temperature returned to normal and remained normal without any rise. The fluid in the chest gradually absorbed and there were no signs of a threatened absorption. The patient was discharged thirty days after admission perfectly well.

The agglutination test for tularemia reached a titer of 1:1,280 one week before discharge.

SUMMARY

1. Three cases of tularemia are presented. All had the ulceroglandular type, two of which were complicated with pulmonary involvement. The

third case was severe and, in addition to the pulmonary involvement, the patient was pregnant.

2. Streptomycin appears specific for tularemia as evidenced by the rapid improvement immediately following its use.

3. There were no reactions noted.

4. The dose of streptomycin is not known, but it seems to be regulated by the severity of the disease.

4952 Maryland Avenue.

BIBLIOGRAPHY

1. Foshay, L.: Tularemia: Summary of Certain Aspects of Disease Including Methods for Early Diagnosis and Results of Serum Treatments in Six Hundred Patients, Medicine **19**: 1-38 (February) 1940.
2. Francis, E., and Felton, L. D.: Antitularemic Serum, Pub. Health Rep. **57**:44-55 (January) 1942.
3. Beel, J. Frederick, and Kahn, Oscar B.: Efficacy of Some Drugs and Biologic Preparations as Therapeutic Agents for Tularemia, Arch. Int. Med. **75**:155-158 (March) 1945.
4. Schatz, Albert; Bugie, Elizabeth, and Wakeman, S. A.: Streptomycin, a Substance Exhibiting Antibiotic Activity Against Gram-positive and Gram-negative Bacteria, Proc. Soc. Exper. Biol. & Med. **55**:66-69 (January) 1944.
5. Reimann, H. A.; Elias, W. F., and Price, A. H.: Streptomycin for Typhoid; a Pharmalogic Study, J. A. M. A. **128**: 175-180 (May 19) 1945.
6. Hinshaw, H. C., and Feldman, W. H.: Streptomycin in Treatment of Clinical Tuberculosis, a Preliminary Report, Proc. Staff Meet. Mayo Clin. **20**:313-318 (Sept. 5) 1945.
7. Heilman, F. R.: Streptomycin in the Treatment of Experimental Tularemia, Proc. Staff Meet. Mayo Clin. **19**:553 (November 29) 1944.
8. Herrell, W. E., and Nichols, D. R.; Proc. Staff Meet. Mayo Clin. **20**:449 (November 28) 1945.

INTRATHECAL PENICILLIN IN TREATMENT OF NEUROSYPHILIS

A PRELIMINARY REPORT

SAMUEL H. RUBIN, M.D.
AND
CECIL G. LEITCH, M.D.
KANSAS CITY, MO.

The appearance of penicillin on the antibiotic horizon has led to wide investigation in the study of sensitivity of pathogenic organisms as a basis for its use. Of equal importance is the practical deduction of dosage, route of administration and frequency of administration.

Mahoney, Arnold and Harris[1] in 1943, with their article on penicillin treatment of early syphilis, stimulated other investigators and clinicians to work in this field. They found that "the results of blood studies indicated that the therapy was responsible for a more or less rapid and complete disappearance from the blood stream of the reacting substance which is measured by the various tests and which is usually associated with activity in early syphilis." Wise and Pillsbury[2] in July 1944 reported that the treatment of early syphilis with penicillin revealed the healing of lesions and the disappearance of spirochetes to be more rapid than with either the conservative or intensive treatment with arsphenamine. Mahoney et al[3] as well as Moore et al[4] in September 1944 reported favorable results in the treatment of larger groups of early syphilis. Nelson and Duncan[5] reported in January 1945 favorable responses in treatment of early syphilis resistant to arsenic and bismuth.

Stokes et al[6] reported in September 1944 that "the abnormal spinal fluid in neurosyphilis is improved in 74 per cent to some degree, and definitely in 33 per cent. The commonest change is a drop in cell count and total protein (grade 2 improvement on a scale of 5) occurring in 67 per cent of cases. One spinal fluid was rendered normal within the observation period. All four fluid findings improved in 25 per cent of the cases of asymptomatic neurosyphilis, 10 per cent in paresis and taboparesis."

Goldman[7] cited eighteen cases of patients with dementia paralytica and four with tabes dorsalis treated with penicillin. He used two methods of treatment: (1) intramuscular and intrathecal injections; and (2) intramuscular injection and artificial fever. The results in the two groups were similar and he found the treatment was favorable. Two patients in the intraspinal treatment series died but they were practically moribund. Neymann et al[8] treated five patients suffering from chronic dementia paralytica. The results showed improvement in two cases and death in three. One of their methods of treatment was by the intracisternal administration of single injections of 100,000 units, 50,000 units and 40,000 units which produced toxic reactions. They found that single injections of 30,000 units were tolerated well. The blood Wassermann reaction of all five remained positive. The authors conclude that the chronic pachymeningitis and leptomeningitis are probably influenced by penicillin.

Stokes[9] in an interim report on penicillin in late syphilis says that penicillin sodium "is an effective therapeutic agent in the treatment of late syphilis. Under conditions not yet clearly defined, it produces transformations symptomatically and serologically without reaction, or even serious inconveniences to the patient which are equal if not superior to those obtained by long and arduous procedures involving the arsenicals and heavy metals." Rose[10] treated with penicillin by the intramuscular route only one hundred and forty cases of symptomatic neurosyphilis. He found a gradual reduction in the cell count and in the Wassermann reaction with the proteins returning to normal. He felt that the results compare favorably but are not better than with the older forms of therapy. Thrasher.[11] found the giving of 20,000 units intrathecally at weekly intervals was most practical. He found both clinical and serologic improvement. It is suggested that intrathecal penicillin be used in cases in which malaria is contraindicated.

The purpose of our study was to observe clinical responses, to note serologic changes and to evaluate tolerance to intrathecal dosage. It was the interest of one of us (S. H. R.) to observe the results of higher dosages of penicillin given intrathecally

Resident in Medicine, St. Mary's Hospital.
From the Department of Internal Medicine, St. Mary's Hospital.

Table 1. *Résumé of Cases*

Patient	*Diagnosis*	*Initial Spinal Fluid Findings*	*Mode of Injection of Penicillin**	*Final Spinal Fluid Findings*
I. J. D.	1. Meningovascular syphilis 2. Optic Atrophy	Wass. 4 plus Glob. Tr. Coll. Gold 1122221000 1 w.b.c., 2 r.b.c. per cm.	1. I.M.	Wass. 3 plus Coll. Gold 1122210000
II. A. E.	1. Meningovascular syphilis	Wass. 2 plus Glob. Neg. Coll. Gold 1122211000 1 r.b.c. 1 w.b.c. per cm.	1. I.M.	Wass. 2 plus Glob. Neg. Coll. Gold 1122211000
III. P. R.	1. Neurosyphilis 2. Hypertrophied prostate	Wass. 4 plus Glob. Tr. Coll. Gold 1122222111 5 r.b.c. 1 w.b.c. per cm.	1. I.M. 2. I.T. 100,000 u. for 2 consecutive days for total of 200,000 u.	Wass. Neg. Glob. Neg. No Cells Coll. Gold 1112211000
IV. J. K.	1. Neurosyphilis 2. Hypertension 3. Paresis of right upper extremity	Wass. 4 plus Glob. Neg Coll. Gold 1111100000 2 r.b.c. 2 w.b.c. per cm.	1. I.M. 2. I.T. 50,000 u. and 100,000 u. for total of 800,000 u.	Wass. Neg. Coll. Gold Neg.
V. S. D.	1. Meningovascular syphilis	Wass. 2 plus Coll. Gold Neg.	1. I.M. 2. I.T. 50,000 u.	Wass. Neg. Coll. Gold Neg.
VI. N. G.	1. Meningovascular syphilis	Wass. 4 plus Glob. Neg. Coll. Gold 1111000000 2 w.b.c. per cm.	1. I.M. 2. I.T. 30,000 u. initially and 50,000 u. 2 days later. Total of 80,000 u.	Wass. Neg. Glob. Neg. Coll. Gold Neg.
VII. M. T.	1. Meningovascular syphilis	Wass. 3 plus Coll. Gold Neg. 4 r.b.c. per cm.	1. I.M. 2. I.T. 30,000 u. initially and 50,000 u. every other day. Total of 280,000 u.	Wass. Neg. Glob. Plus Coll. Gold Neg. 3 w.b.c. and 64 r.b.c. per cm.
VIII. N. W.	1. Meningovascular syphilis	Wass. 4 plus Glob. Neg. Coll. Gold Neg. 1 w.b.c. per cm.	1. I.M. 2. I.T. 40,000 u. initially and 50,000 u. every other day. Total of 690,000 u.	Wass. 2 plus Glob. Neg. Coll. Gold Neg.
IX. R. B.	1. Meningovascular syphilis	Wass. 4 plus Coll. Gold 5554433322 1 w.b.c. and 8 r.b.c. per cm.	1. I.M. 2. I.T. 50,000 u. every other day. Total of 850,000 u.	Wass. 4 plus Glob. slightly positive Coll. Gold Neg. 4 w.b.c. and 87 r.b.c. per cm.
X. F. B.	1. Neurosyphilis	Wass. 4 plus Coll. Gold 5542222100	1. I.M. 2. I.T. 50,000 u. and 100,000 u. every other day. Total of 750,000 u.	Wass. 4 plus Coll. Gold 3300000000

*10,000 units per cc. of saline

Abbreviations

Coll. Gold ..... colloidal gold
Glob. ..... globulin
I.M. ..... intramuscular
I.T. ..... intrathecal
Neg. ..... negative
Tr. ..... trace
u. ..... units
Wass. ..... Wassermann

by the intraspinal route. Case P. R., treated by S. H. R., inspired us to more extensive study. All cases except J. K. had had previous prolonged and intensive antisyphilitic treatment without complete reversal of serology. Due to this fact, these patients received lumbar punctures for study of evidence of neurosyphilis with the idea of treating them for this. Some of these cases were asymptomatic while others had signs of neurosyphilis. This series includes ten cases, two of which were treated

by the intramuscular route only, each receiving 5,000,000 units of penicillin over approximately a thirty day period. The other eight cases were treated by the combined intramuscular and intrathecal routes.

COMMENT

It will be noted that in cases I and II only intramuscular injections of penicillin were given, each patient receiving a total of 5,000,000 units. As a result little or no change occurred in the spinal fluid. However, in cases from III through X, eight cases in total, intraspinal injections plus intramuscular injections of 20,000 to 30,000 units every three hours were given. We noted a complete reversal to a negative spinal fluid Wassermann in five of these eight cases. Of the remaining three cases, one showed partial improvement of the spinal fluid Wassermann, another showed a reversal from a paretic colloidal gold curve to a negative colloidal gold and the last case showed an improvement in the colloidal gold curve. Thus, there was an improvement in every case treated with intraspinal plus intramuscular injections.

In those cases in which we used intraspinal injections plus the intramuscular, large dosages of penicillin were given intraspinally as compared to previous reports. Fifty thousands units and 100,000 units comprised most of our spinal injections. In the cases in which the spinal fluid became negative, the intraspinal dosage required to bring this result differed from patient to patient. In one instance one dosage of 50,000 units was enough to effect a negative Wassermann. In the other cases, the number of units required was considerably higher. The highest number of units given intraspinally before the change in the spinal fluid Wassermann occurred was a total of 800,000 units given in multiple dosages. In the study, however, this total of units was not the largest injected intrathecally. Case IX received 1,100,000 units intraspinally with no change in the spinal fluid Wassermann. However, in his case a negative colloidal gold occurred after 850,000 units so that the added 250,000 units made no further change.

Of the eight cases treated intrathecally plus intramuscularly only three had clinical signs of syphilis, cases IV, IX and X. Case IV showed no improvement of these signs but the clinical picture may have been masked by a previous cerebral thrombosis which had caused personality changes. In cases IX and X clinical improvement was noted. The patients' appetites improved, they gained slightly in weight and we observed a return of more rational thinking and a marked decrease in general nervous irritability.

Only two cases treated intraspinally gave evidence of toxic reactions. Case IV, after receiving an initial dose of 100,000 units intraspinally, developed convulsions, became comatosed and had a marked fall in blood pressure. A spinal puncture eighteen hours later, and while the patient was still in a comatose state, did not reveal any elevation of spinal fluid pressure or cell count. Three days later the patient returned to his former condition and intraspinal treatment was resumed, without any further signs of toxicity, until spinal fluid became negative. Case V was a very emotional woman who exhibited a pseudoconvulsion observed by the nurse. When one of us arrived (S. H. R.), the patient was extremely restless and upset. After the patient was given 30 cc. of 50 per cent glucose intravenously she returned to normal and remained so. No further treatment was indicated since Wassermann had become negative.

CONCLUSIONS

Although we realize that our number of cases is small, we feel it important to report our results in view of the improvement shown in every case treated by the combined intraspinal and intramuscular routes. We plan also to examine these cases periodically. None of our patients had evidence of syphilitic heart disease. In summary, from the light of our experience, we believe that the combination of intraspinal injections of 50,000 units of penicillin every other day with intramuscular injections of 20,000 units every three hours is the most beneficial in the treatment of neurosyphilis.

2800 Main Street.

BIBLIOGRAPHY

1. Mahoney, J. F.; Arnold, R. C., and Harris, A.: Penicillin Treatment of Early Syphilis, A Preliminary Report, Ven. Dis. Inform. **24**:355 (December) 1943.
2. Wise, C. R., and Pillsbury, D. M.: Penicillin in the Treatment of Syphilis, Proc. Roy. Soc. Med. **37**:491 (July) 1944.
3. Mahoney, J. F.; Arnold, R. C.; Sterner, B. L.; Harris, A., and Zwally, M. R.: Penicillin Treatment of Early Syphilis, J. A. M. A. **126**:63 (September 9) 1944.
4. Moore, J. E.; Mahoney, J. F.; Schwartz, W.; Sternberg, T., and Wood, W. B.: The Treatment of Early Syphilis With Penicillin, J. A. M. A. **126**:67 (September 9) 1944.
5. Nelson, R. A., and Duncan, L.: Penicillin in the Treatment of Early Syphilis Resistant to Arsenic and Bismuth, Am. J. Syph., Gonor. & Ven. Dis. **29**:1 (January) 1945.
6. Stokes, J. H.; Sternberg, T. H.; Schwartz, W. H.; Mahoney, J. F.; Moore, J. E., and Wood, W. B.: The Action of Penicillin in Late Syphilis, J. A. M. A. **128**:73 (September 9) 1944.
7. Goldman, D.: Treatment of Neurosyphilis With Penicillin, a Preliminary Report, J. A. M. A. **128**:274 (May 26) 1945.
8. Neymann, C. A.; Heilbrunn, G., and Youmans, G. P.: Experiments on the Treatment of Dementia Paralytica With Penicillin, J. A. M. A. **128**:433 (June 9) 1945.
9. Stokes, J. H.: Penicillin in Late Syphilis, an Interim Report, Am. J. Syph., Gonor. & Ven. Dis. **29**:313 (May) 1945.
10. Rose, A. S.: Penicillin Treatment of Neurosyphilis, J. Connecticut M. Soc. **9**:522 (July) 1945.
11. Thrasher, J. R.: Intrathecal Penicillin in Cerebral Spinal Syphilis, J. Indiana M. A. **38**:216 (July) 1945.

CASE REPORTS OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 86

PRESENTATION OF CASE

M. A. C., a 50 year old white woman, entered Barnes Hospital for the first time on September 13 and was discharged on September 27, 1939.

Chief Complaint.—Weakness.

Family History.—Irrelevant.

Past History.—Except for having had severe influenza in 1918, the patient had been in good health. She had had varicose veins for some years. There was nothing significant in her systemic history. For the last seventeen years she had worked in a bookbindery as a supervisor. She came in contact every day with fumes of gasoline which was used as a cleaning fluid. No other case of a similar disorder occurred in the shop. Her diet was adequate; she used no alcohol or drugs.

Present Illness.—In May 1938, the patient bumped her leg over the site of a varicose vein. Soon an ulcer developed which was intractable to various forms of local treatment. In December of that year a ligation of the saphenous vein was done and the ulcer healed promptly. In January 1939, the patient first noted a slight decrease in energy, and by February it had developed into frank weakness. She consulted several physicians and each gave her tonics in addition to vitamins, liver and iron. Weakness progressed and she developed a pallor of the skin. She was compelled finally to stop working and spend most of her time in bed. She then received a transfusion at home. In June, following the removal of some lower teeth, a hemorrhage developed which lasted from three to four hours. She was transfused again. During the last year of her illness she lost 20 pounds in weight. She entered Barnes Hospital for diagnosis and treatment.

Physical Examination.—Temperature was 37.4 C., pulse 90, respirations 20 and blood pressure 110/48. The patient appeared much older than her years. She was undernourished and there was marked pallor of the skin and mucous membranes. She was alert and cooperative. The pupils reacted well to light and accommodation. The eyegrounds were negative. The upper respiratory tract showed no abnormalities. The lungs were clear. The heart was not enlarged; the rhythm was regular and the sounds were of fair quality. Over the aortic and mitral areas were systolic murmurs, grade 1 and grade 2 respectively, which were not further described. The liver percussed one finger's breadth below the right costal margin. The edge was not felt. The spleen was not palpable and there were no abnormal masses. Other than pigmentation about the scar of the ulcer on the left leg there were no abnormalities of the limbs. There was no lymphadenopathy. Neurologic examination was negative.

Laboratory Findings.—Blood count: red cells 980,000, hemoglobin 2.0 gms., white cells 3,900; differential count: basophils 2 per cent, eosinophils 2 per cent, C myelocytes 4 per cent, metamyelocytes 4 per cent, band forms 8 per cent, segmented forms 28 per cent, lymphocytes 48 per cent, monocytes 4 per cent, reticulocytes 2.2 per cent, platelets 36,000. There were 2 normoblasts. Sternal marrow: there was marked acellularity in the marrow material reflecting absence of the nucleated red blood cells. Most granular cells were deficient in granules. Prothrombin time was normal. Clotting time was 9 minutes. Bleeding time was 18½ minutes. Urinalysis showed a trace of albumin. Blood Kahn reaction was negative. Stool examination was negative for blood. Basal metabolic rate was minus 3. Roentgenogram of the chest showed slight generalized enlargement of the heart; the hilar shadows were prominent throughout with increased bronchial markings. Gastrointestinal series revealed that the duodenal cap was deformed and showed contractual narrowing in the midzone, suggesting an old healed ulcer.

Course in Hospital.—The patient received six transfusions and intramuscular injections of liver extract. The red blood count rose to 3,470,000 with 9 gms. of hemoglobin and the white cell count was 3,540. Differential count: C myelocytes 3 per cent, metamyelocytes 15 per cent, band forms 39 per cent, segmented forms 10 per cent, lymphocytes 24 per cent, monocytes 9 per cent. Most of the polymorphonuclear forms remained deficient in granules. Gastric analysis revealed normal amounts of free acid. Following the extraction of a tooth there was severe hemorrhage which was promptly arrested by local application of snake venom. During hospital residence there was an irregular, mild fever ranging between 37 C. and 38 C.

Second Hospital Admission.—The patient was readmitted to Barnes Hospital on October 1 and discharged October 4, 1939.

Interval History.—The patient remained well for six days following discharge from the hospital. Bleeding occurred again from the tooth socket which had bled previously. The hemorrhage could not be controlled and the patient was readmitted for this reason.

Physical Examination.—Findings remained unchanged from that of previous admission except that there was more pallor than on discharge. Clots had already formed at the bleeding point.

Laboratory Findings.—Laboratory findings were unchanged.

Course in Hospital.—The patient received eight transfusions and was discharged.

Interval History.—From October 1939, until April 1945, the patient reentered the hospital fifty-six times for blood transfusions. During this period she was followed by the Department of Hematology, and whenever her red blood cell count dropped to 2,000,000 she was given a series of three to five transfusions. During these intervals the white cell count and platelets were not depressed unduly; there was no abnormality in the differential count except for the fact that neutrophils were always deficient in granules. Between transfusions the patient worked regularly and felt fairly well. No hemorrhagic manifestations occurred. Her skin gradually became darker and was definitely bronzed. No other significant findings developed

other than calculus in the left kidney in October 1944, and a uterine myoma. There was never any glycosuria and fasting blood sugar was repeatedly within normal limits.

Final Hospital Admission.—March 31 to April 26, 1945, on the Orthopedic Service.

Present Illness.—On the day of admission the patient fell and injured her right leg.

Physical Examination.—The patient apparently was in considerable pain. She was lying in a helpless position with mild abduction and external rotation of the right thigh. Pressure over the greater trochanter caused extreme pain. There was marked pallor and bronzing of the skin. The recorded significant findings included cardiac enlargement with the apex 11½ cm. to the left in the sixth interspace. The rate was 110. There was a blowing apical systolic murmur.

Laboratory Findings.—Blood count: red cells 3,000,000, hemoglobin 9.5 gms., white cells 6,000; differential count: "stab" forms 4 per cent, segmented forms 75 per cent, lymphocytes 20 per cent, monocytes 1 per cent. Urinalysis revealed a trace of albumin and occasional granular casts. Blood nonprotein nitrogen was 110 mgs. per cent. Blood sugar was 87 mgs. per cent. CO_2 combining power was 38.2 volumes per cent. Cephalin cholesterol flocculation test was negative. Roentgenogram showed a fracture of the neck of the right femur.

Course in Hospital.—Shortly after admission the patient was operated upon and an open reduction of the fracture was made. She received washed red cells from six pints of whole blood. An immediate reaction with chills and fever occurred after each transfusion. The red cell count rose to 3,510,000, hemoglobin increased to 13.4 gms., the white cells increased to 6,550 and the platelets were 84,240. Differential count: eosinophils 2 per cent, metamyelocytes 1 per cent, band forms 37 per cent, segmented forms 32 per cent, lymphocytes 13 per cent, monocytes 14 per cent. Polymorphonuclear cells were deficient in granules. The patient developed leg sores which gradually increased in size. She then developed continuous fever which ranged between 38 C. and 39 C. The liver was palpable but the spleen was not. The patient gradually became stuporous and the nonprotein nitrogen rose to 128 mgs. per cent. The liver gradually increased in size and pitting edema of the ankles developed. Many white blood cells were found in the urine. Rales in the lung, a pericardial friction rub and a uremic frost appeared. The final blood count was: red blood cells 2,700,000, hemoglobin 7.7 gms., white cells 6,350 and platelets 10,800. The differential count was essentially unchanged. The patient lapsed into deep coma and died.

CLINICAL DISCUSSION

DR. HARRY ALEXANDER: This patient had over sixty admissions to the hospital in five years. The diagnosis on the chart was aplastic anemia. Dr. Moore, is there a concise definition for aplastic anemia?

DR. CARL V. MOORE: No, there is not a concise definition. One might prefer the terms hypoplastic or refractory anemia to aplastic anemia since there usually is not complete suppression of formation of red cells. Production of all cellular elements is often deficient, but frequently one type of cell is depressed more than the others. There may or may not be manifestations of thrombocytopenia and granulocytopenia. Sometimes the bone marrow is normal, sometimes hypoplastic and sometimes hyperplastic. We did several sternal punctures on this patient and the marrow was always relatively acellular. We wanted a biopsy made but she never would consent to it.

DR. ALEXANDER: What marrow she did have was producing cells as best it could. Did she have reticulocytes?

DR. MOORE: Yes, a few, but normoblasts were not found after the first and second admissions. Usually there were no immature myeloid cells present.

DR. ALEXANDER: Without the bone marrow could you make the diagnosis of hypoplastic anemia?

DR. MOORE: You could not make the diagnosis with certainty. The same picture in the blood is given occasionally by myelophthisic anemias. The deficiency of granules in polymorphonuclear leukocytes is, however, suggestive of a hypoplastic marrow.

DR. ALEXANDER: May hypoplastic anemia be caused by poisoning?

DR. MOORE: It may be caused by toxins of various kinds or it may be idiopathic. Most patients show hemorrhage but this woman did not. Platelets are formed in the bone marrow and possibly in the lungs. I have never been convinced that there are enough megakaryocytes in the lungs to account for a large proportion of the platelets in the peripheral blood. One usually has to search a long time to see megakaryocytes in sections of lung. Is that right, Dr. Smith?

DR. MARGARET SMITH: Yes.

DR. EDWARD H. REINHARD: Not only was she making platelets, but is it not possible she was making red blood cells and white blood cells in other places?

DR. ALEXANDER: Her spleen, liver and lymph nodes were not enlarged.

DR. REINHARD: They should have been if there was extramedullary hemopoiesis.

DR. MOORE: The chances are that she had small areas in her marrow which were functioning.

DR. ALEXANDER: How would you rationalize the same picture in the blood with a hypoplastic and a hyperplastic marrow? According to the bone marrow they are different. According to the blood they are the same. Does aplastic anemia mean a lot of different things?

DR. MOORE: No one knows. If one produces

aplastic anemia in animals with benzol the bone marrow becomes first hyperplastic, then if the poisoning continues it becomes hypoplastic and then acellular. These changes may represent different diseases or only stages in the same disease.

Dr. W. Barry Wood, Jr.: What happens to the blood itself? Is there increased destruction?

Dr. Moore: There may be increased destruction. The only evidence of this would be an increase in the excretion of the bile pigments.

Dr. Alexander: The bleeding time was rather long. How do you explain that?

Dr. Moore: I am not sure I can. Her platelets were never very low.

Dr. Alexander: One often reads that aplastic anemia is an industrial disease found in those working with chemicals, drugs, etc. This patient worked with gasoline. Do you think this caused the change in the marrow?

Dr. Moore: We were not able to pin it definitely on that one agent. I have seen hypoplastic anemia from many things: arsenic, gold, benzol, aniline dyes, trinitrotoluene, etc. Approximately 50 per cent of cases, though, are idiopathic.

Dr. Alexander: What effect has snake venom in controlling hemorrhage?

Dr. Reinhard: Moccasin snake venom has a thrombin-like effect and has been used locally to induce clotting.

Dr. Alexander: Are some venoms hemolytic?

Dr. Moore: Yes. Cobra snake venom, for instance, causes hemolysis.

Dr. Wood: What is the explanation of the deficiency of granules in the polymorphonuclear leukocytes?

Dr. Moore: I do not know, Dr. Wood, except that individuals whose marrow is depressed markedly will usually produce polymorphonuclear leukocytes with very few granules.

Dr. Alexander: She was given many transfusions.

Dr. Moore: Yes, usually in groups of three or four for a total of almost 160. She was greatly improved after each series of transfusions.

Dr. Alexander: That amounts to twenty gallons of blood. What became of it?

Dr. Moore: All the breakdown products of hemoglobin are excreted except iron, which was apparently stored in this patient as her skin became bronzed. She had either hemosiderosis or hemochromatosis. We could never establish a diagnosis of the latter.

Dr. Alexander: Does one see hemochromatosis in a woman?

Dr. Moore: Very rarely, but if transfusions can produce it I do not see why one should not.

Dr. Alexander: What about hemosiderosis? She had only one high blood sugar, 170 mgs.

Dr. Moore: Several investigators have tried to produce hemochromatosis in animals by injecting large amounts of blood but have been unable to do so. Hemochromatosis may not be distinguishable from advanced hemosiderosis, although pathologists often argue the point.

Dr. Alexander: Why was there such a high NPN blood on the last admission? Was there a transfusion reaction?

Dr. Moore: I do not know. The elevated NPN was noted, however, several days after a severe febrile transfusion reaction. If hemoglobinuria occurred at that time it was not recognized.

Dr. Alexander: What is the effect of pigmentation of the kidney?

Dr. Moore: No definite effect is known.

Dr. Alexander: There was a small amount of albumin in the urine. What is the lesion in a transfusion reaction?

Dr. Moore: The changes are largely in the tubules.

Dr. Alexander: On nearly every admission she had at least one reaction. She had chills after each of the last transfusions.

Dr. Wood: Azotemia is rare in hemochromatosis and it is evidence here for transfusion reactions.

Dr. Alexander: What is the effect of splenectomy?

Dr. Moore: I doubt if it has any effect in hypoplastic anemia unless the marrow is hyperplastic and there is evidence of increased destruction by the spleen. Dr. Doan has recognized cases in which this occurred, has called them "Splenic Panhematopenia" and has reported remissions after splenectomy.

Dr. Carl Harford: Will the effect of adrenalin on the blood count determine whether or not splenectomy will be valuable?

Dr. Moore: Yes, Dr. Doan thinks this test is of considerable value in determining abnormal splenic activity.

anatomic diagnosis*

Erythyroid hypoplasia of the bone marrow (history of hypoplastic anemia 6 years, with 155 transfusions of whole blood or cell residue).

Hypertrophy and dilatation of the heart (370 grams).

Hemochromatosis involving the liver, spleen, pancreas, kidneys, adrenals, skin, bone marrow, myocardium and lymph nodes.

Casts of hemoglobin and erythrocytes in the renal tubules and interstitial edema of the kidneys (history of repeated reactions to transfusions).

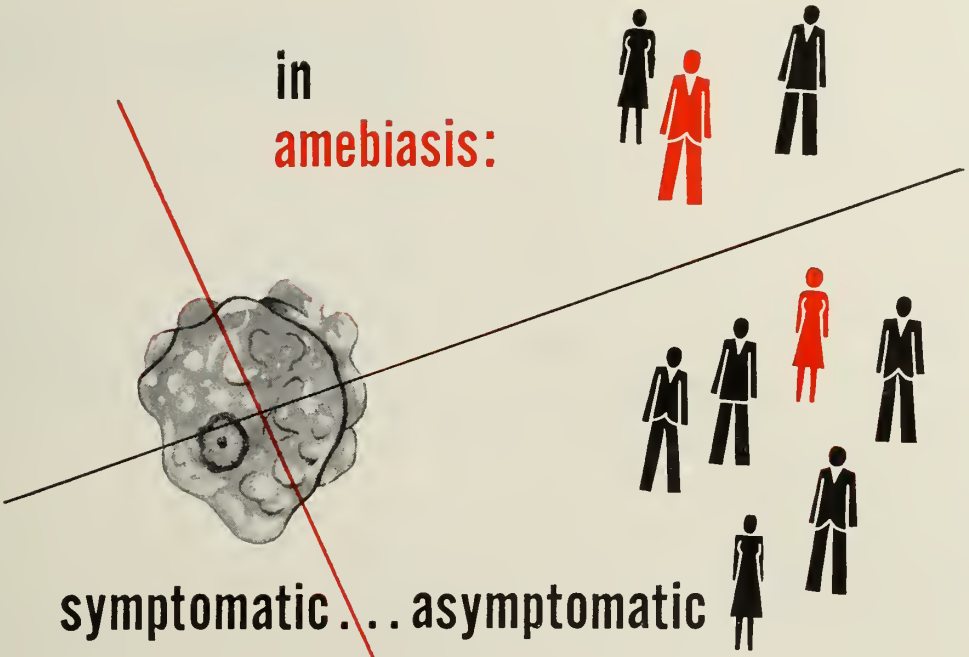
Serofibrinous pericarditis.

pathologic discussion

Dr. Robert A. Moore: The discussion of the anatomic lesions in this case, like that of the clinical history, may be divided into three related groups: those which concern the anemia, those that are related to the pigmentation and the cause

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

in amebiasis:



symptomatic . . . asymptomatic

Barr[1] states: ". . . it is just as important to treat properly the symptomless 'carrier' of this parasite as to treat the patient suffering from amebic dysentery."

Stitt, Clough and Clough[2] report, "The disease may be symptomless . . . These mild or symptomless cases have been shown to outnumber greatly the cases with clinical dysentery. They constitute the carriers or 'cyst-passers'."

DIODOQUIN (5, 7-diiodo-8-hydroxyquinoline) is safe to use even in suspected cases of amebiasis. Nonirritating, nontoxic—Diodoquin has been found promptly destructive to protozoa in amebiasis and Trichomonas hominis (intestinalis).

DIODOQUIN

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

is the registered trademark of G. D. Searle & Co. Chicago 80, Ill.

1. *Barr, D. P.: Modern Medical Therapy in General Practice, 2:1830, Baltimore, Williams & Wilkins Company, 1940.*
2. *Stitt, E. R.; Clough, P. W., and Clough, M. C.: Practical Bacteriology, Haematology and Animal Parasitology, ed. 9, Philadelphia, P. Blakiston's Son & Co., 1938, pp. 410-412.*

SEARLE *Research in the Service of Medicine*

CONTROL

at every step insures your confidence

in every package of

PENICILLIN SCHENLEY





In the Schenley Laboratories, the natural process which yields penicillin is safeguarded at *every step* by precision control.

This system of rigid control which characterizes the production of Penicillin Schenley enables you to specify it with the greatest confidence . . . confidence in its purity, its standard potency, and its freedom-from-pyrogens.

SCHENLEY LABORATORIES, INC.
Producers of Penicillin Schenley
Executive Offices: 350 Fifth Avenue, New York City

Your Local Distributor for **PENICILLIN** SCHENLEY *is:*

ST. LOUIS
Charles A. Schmidt Instrument Co.
Storz Instrument Co.

SPRINGFIELD
Burt Krone Company

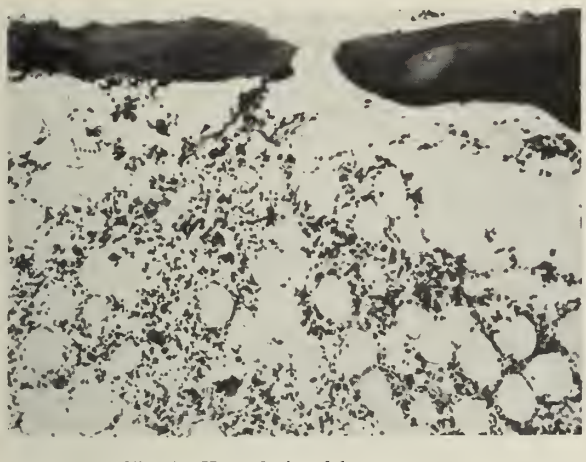


Fig. 1. Hypoplasia of bone marrow.

of the renal failure. It is apparent from the history that this order is in chronologic sequence, and it is an interesting problem to evaluate the etiologic significance.

The gross examination demonstrated red and yellow marrow in the usual sites and relative distribution. In the microscopic sections of the red marrow, however, there are distinctly increased numbers of fat cells and a slight to moderate hypocellularity of the myeloid elements. The cells present are almost exclusively members of the granulocytic series, mononuclear cells and megakaryocytes. The hypoplasia of the marrow is largely due to the great decrease in the numbers of erythroid cells which are entirely absent from many fields (Figure 1). The megakaryocytes are of normal numbers and appearance. The monouclear cells are slightly increased in number and their cytoplasm is loaded with coarse granules of golden brown pigment, which is an observation that will be of greater importance in relation to the second group of findings.

Extramedullary hematopoiesis is not present, but it is not to be expected after we have seen the composition of the bone marrow. There are no lesions which are indicative of any recognized cause of the hypoplasia within the marrow or elsewhere, although after a course of six years this is not surprising, even if this were not an example of what is recognized as primary idiopathic hypoplastic anemia. Anatomic changes secondary to the anemia itself were quite few. A slight hypertrophy and dilatation of the heart was present, but there was not fatty degeneration of the myocardium which might have been found had not the total number of erythrocytes been maintained so well by the many transfusions.

The glandular epithelium throughout the body and all the sites of the reticulo-endothelial system contain from moderate to large amounts of pigment. Grossly this was responsible for the rich rust-brown color which was intense in the lymph nodes and pancreas (Figure 2) and caused a distinct alteration in the normal color of the liver (Figure 3), spleen and skin. Microscopically, it is also present in the sections of the kidneys, adrenals, bone marrow, myocardium and pituitary. It stains characteristically for iron; and chemical analysis of various organs recovered approximately ten times the usual amount of iron in the bone marrow, kidneys and spleen; forty times the usual amount in the liver; and tremendous amounts in samples of the lymph nodes where it composed about 2 per cent of the wet weight of those organs.

In the literature of pathology such tremendous amounts of iron in the tissues are described in only one disease, hemochromatosis; but because we know in this instance that the source of the extra iron was in the large amount of transfused blood, we must attempt a distinction from simple hemosiderosis. Microscopically, there is a slight but distinct increase of fibrous tissue in the portal spaces of the liver; and the iron-containing pigment is present in large amounts, both in macrophages and free among the bundles of collagen in these areas. In addition it is present in the epithelium of the bile ducts, in moderate amounts in the hepatic cells and in the Kupfer cells. In the pancreas the pigment is present in the cells of the ductal epithelium and the Islands of Langerhans as well as in the acinic epithelium. It is largely within mononuclear phagocytes in the spleen and lymph nodes; but distinct amounts lay free in the trabeculae, the capsule and the walls of the blood vessels. These changes of slight fibrosis and the distribution of the pigment in these and other finer structures create a histologic picture indistinguishable from that of true hemochromatosis. Because of the importance of this interpretation, we have had these sections reviewed by several other pathologists who agree with this conclusion.

Before accepting this as hemochromatosis induced in a human being by the administration of blood, we must consider a few findings which were not typical of the usual idiopathic case. No very diligent search was made for the presence of hemo-

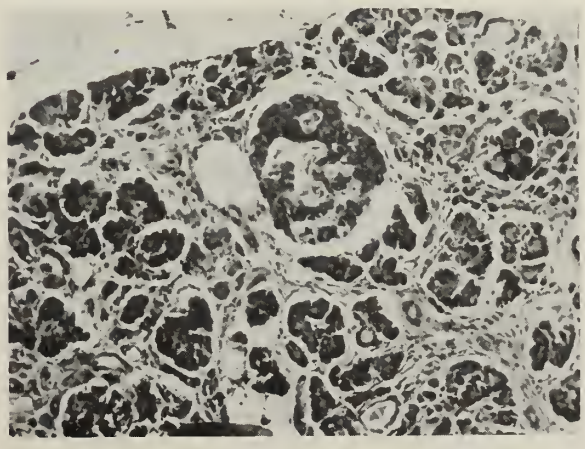


Fig. 2. Fibrosis and pigmentation of pancreas.

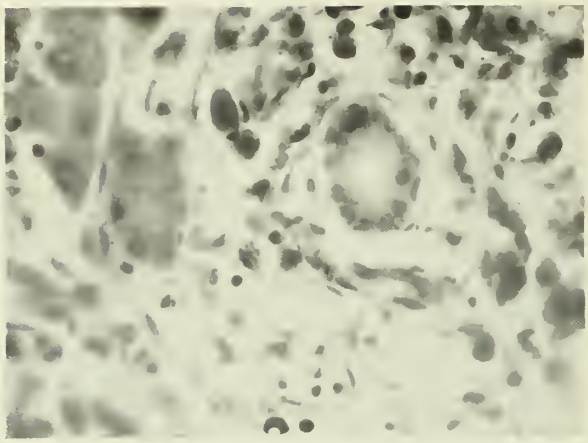


Fig. 3. Pigmentation of liver. Note pigment in epithelium of bile ducts.

fuscin, a supposedly non-iron-containing pigment on which varying emphasis has been placed in the past. This was omitted because of the prevailing opinion that most of such pigment described in former years now stains with the more refined methods for demonstrating iron, while the remainder is the brown wear-and-tear pigment of aging tissues. The most disturbing single finding is the large amount of pigment in the reticulo-endothelial elements of the bone marrow, spleen, lymph nodes and liver, which organs are not usually as profoundly affected relative to the involvement of other sites in hemochromatosis as they are in hemosiderosis. Hemosiderin, however, whatever its source is the same pigment, and as Sheldon observes in reviewing the theoretical aspects of this same problem, it is only reasonable to expect the body eventually to distribute it in much the same sites regardless of origin. If it had been possible to halt the transfusions some time before the death of this patient, perhaps these sites would not have been relatively so involved; but because additional hemosiderin was constantly accumulating, a near saturation in the reticulo-endothelial system is to be expected. The difference between this case and the results of numerous experimental attempts to induce hemochromatosis in animals by the administration of blood may be due to the total amounts given, or may possibly indicate that some other factor such as an associated deficiency in nutrition may play a part.

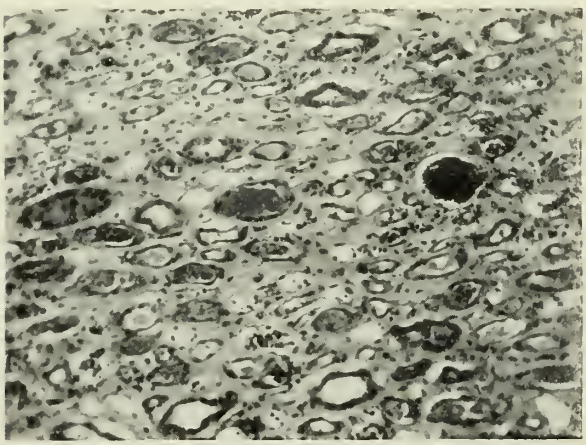


Fig. 4. Red cell and hemoglobin casts in renal tubules.

Finally, the renal changes were unusual. There were no gross or microscopic changes typical of any of the usual types of Bright's disease. There are a marked interstitial edema and moderate numbers of fibrosed glomeruli. The number of tubules is decreased, and most had low cuboidal epithelium with occasional foci of closely grouped nuclei suggestive of long-standing tubular damage with persistant efforts at regeneration. Within the tubules are numerous casts of hemoglogin and erythrocytes, undoubtedly evidences of the last transfusion reaction (Figure 4). As it is known that this patient suffered repeated minor reactions to transfusions, it is possible, but presumptive, that the chronic renal damage may have arisen on this basis; for there is no other anatomic explanation. That the kidneys failed terminally was evidenced by the presence of a serofibrinous pericarditis and multiple hemorrhages in various serous and mucous membranes, often seen in patients dying of uremia.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 3. March, 1946.

The pitfalls, dangers and abuses of bed-rest have been discussed in current medical journals by authorities in many fields. Probably this is a reaction to a form of treatment which has been prescribed with too little discrimination in certain conditions. This wholesome criticism should not obscure the fact that bed-rest continues to be as much a specific in tuberculosis therapy as does insulin in diabetes. Like insulin, bed-rest should be prescribed and used with precision and intelligence.

BED-REST IN TUBERCULOSIS

Current interest in the dangers from bed-rest challenges those who treat tuberculosis with bed-rest, which is the accepted and approved treatment. If bed-rest may exert a baneful influence on people ill of other disease, should it not on tuberculous patients? If the dangers do apply, are they commensurate with the risk from attempting to treat tuberculosis without bed-rest?

What are these dangers of bed-rest? In tuberculosis they are: (1) pulmonary infarction; (2) inadequate drainage of pulmonary lesions; (3) emotional maladjustment; and (4) improper correlation with collapse therapy. A brief discussion of these dangers of bed-rest seems indicated.

(1) *Pulmonary infarctions:* This has been regarded as a danger of paramount importance in people kept abed. What does the record show for this complication in the bed-fast tuberculous person? The Wm. H. Maybury Sanatorium with 845 beds has employed bed-rest and collapse therapy for almost twenty years. Approximately one-half of the patients at any time are not allowed to leave their beds for any reason. Such bed-fast patients may be terminal patients, the average new admission, and many other patients with reasonable prospect of recovery.

The first group furnishes nearly all of the postmortem material. During 18 years, among the 751 postmortem examinations there have been signs of pulmonary embolism in 11 cases, an incidence of 1.5 per cent. Nine of these came from terminal patients. The other two patients had a poor, but not necessarily hopeless, prognosis. Thus in only two instances could infarction appear to have contributed to the fatality. From the experience, pulmonary infarction does not appear to be a danger of great consequence to the tuberculous patient.

(2) *Inadequate drainage of pulmonary lesions:* Bed-rest may mean many things to many people. To some the only limitation on the activity of the patient is that he remain in bed. This is bed-rest in name only and is relatively inert therapeutically. To others it has an increasing therapeutic value as absolute immobility is approached. Unreasoning adherence to this concept fails to allow for pulmonary drainage, especially cavity drainage.

In many sanatoriums so-called "postural rest" is applied to patients with unilateral cavitation. The patient is encouraged to lie on his "cavity side" to protect the less involved lung from positive sputum. The behavior of iodized oil in the chest during cough suggests that the entire tracheobronchial tree, in the presence of cavity, may be bathed frequently in cavitary contents, and thus be contaminated with tubercle bacilli. It would seem then that "postural rest" encourages stagnation of sputum which should be drained.

(3) *Emotional maladjustment:* It is a rare person who can accept undaunted a diagnosis of tuberculosis. For him this is a catastrophe of world-shaking magnitude. He could well use the services of a psychiatrist, a sociologist and a philanthropist. Instead, we give him a hospital number, commit him to bed under an inflexible routine and henceforth concern ourselves only with the status of his thoracic contents. Many patients adapt themselves, but in others tenseness, apprehension or despondency are common, as are complaints of muscular pains and exhaustion. Cough may be unnecessarily severe. In this way the patient fails wholly to take bed-rest although he remains in bed. That such patients tolerate bed-rest poorly in no way relieves us of our responsibility. Proper bed-rest is too valuable a tool to be used in a haphazard and reckless way. It is wholly worthy of the physician's best attention.

(4) *Improper correlation with collapse therapy:* Bed-rest and collapse therapy are integral and complementary parts of the sanatorium regimen and allow no competition. A well-balanced therapeutic program for the tuberculous patient employs all proved methods of treatment, combining them as judgment and experience indicate.

Bed-rest is the foundation therapy and upon its integrity depends the success of the entire treatment. When of high quality, great confidence may be placed in it, and collapse procedures may be added immediately, deferred or withheld, depending on the indications. With a well equipped collapse program, exacerbations appear to be related more often to improper rest than to any other factors. It is significant that physicians who relegate bed-rest to nursing supervision have little confidence in it and prefer to rely wholly on collapse procedures.

What, then, is good bed-rest? Krause had defined rest as relief from strain. In bed-rest, mental repose and muscular relaxation are vital features and any rest regimen without them cannot be considered a therapeutic procedure. It is a sensitive therapy which reflects the care and finesse of its administration. It is a medical problem to be handled only by physicians of proper temperament and training.

Much time must be spent with a patient in helping him to become adjusted. Psychological, social and economic problems must be discussed with him and simplified. He must be indoctrinated with a philosophy which permits him to accept his disease with equanimity and to submit completely and cheerfully to rigid discipline. Thus the seeds for future rehabilitation are planted at the very inception of treatment and many troublesome emotional maladjustments avoided.

Muscular relaxation comes unnaturally to many patients and may be taught only by daily, painstaking repetition. Once achieved, rest in bed becomes pleasant and comfortable. Great insistence should be placed on change of position frequently enough to insure adequate drainage of all parts of the chest. This will involve lying in prone, supine and both lateral positions. Stasis of contaminated secretions in normal areas of the lung must be avoided just as zealously as drainage of diseased areas is encouraged.

Good bed-rest, accordingly, is a precise method of treatment with clear-cut specifications and is based on three fundamental principles: mental repose, muscular relaxation and adequate drainage. Other details are less important and may vary with the type of nursing care available—this without materially affecting final results. The excuse that facilities for good bed-rest are lacking can be rarely substantiated.

Bed-rest in Tuberculosis, William M. Peck, M.D., and Henry Stuart Willis, M.D., American Review of Tuberculosis, July, 1945.

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

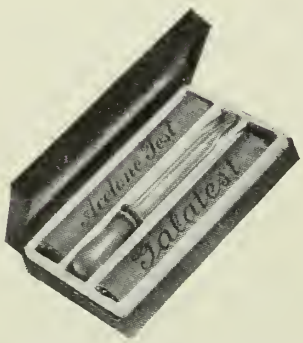
THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY



A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

MARCH, 1946

EDITORIALS

ANNUAL SESSION

The 88th Annual Session of the Association will be held on March 24, 25 and 26 at the Jefferson Hotel, St. Louis. The session will open with the meeting of the House of Delegates at 2:00 p. m., Sunday, March 24. The scientific program, special programs, order of business for the House of Delegates, delegates who have been reported and commercial exhibits appear in this issue. Also a blank for making hotel reservations appears on page 152. All reservations must go through the Housing Bureau which has been set up by the Convention Bureau for the meeting.

Dr. J. W. Thompson, St. Louis, is chairman of the General Committee on Arrangements, with Drs. H. B. Goodrich, Hannibal, and R. B. Denny, Creve Coeur, on the committee.

Dr. E. P. Buddy, St. Louis, is chairman of the Local Committee on Arrangements and committees of St. Louis Medical Society which will cooperate in the meeting follow:

Executive Committee: Drs. Robert Mueller, Chairman, Curtis H. Lohr and E. P. Buddy.

Exhibits: Drs. M. J. Pulliam, Chairman, Theodore H. Hanser and H. H. Kramolowsky.

Arrangements: Drs. Carl F. Vohs, Chairman, R. V. Powell and O. B. Zeinert.

Publicity: Drs. Grayson Carroll, Chairman, L. N. Berard and Thomas M. Martin.

Entertainment: Drs. Daniel L. Sexton, Chairman, Joseph L. Gross and Henry A. Hassett.

Hotels: Drs. A. R. Schreffler, Chairman, James F. Clancy and Joseph Grindon, Jr.

Past President's Banquet: Drs. A. N. Arneson, Chairman, Henry R. McCarroll and Robert A. Moore.

Reception Committee: Drs. Edwin C. Ernst, Chairman, John C. Morfit, Robert E. Schlueter, Louis H. Behrens, R. Emmet Kane, Cyrus E. Burford, William W. Graves, Charles H. Neilson, Cleveland H. Shutt, Vilray P. Blair, Charles E. Hyndman, Frank J. V. Krebs, Neil S. Moore, Lee D. Cady, Curtis H. Lohr, Joseph C. Peden, Frederick E. Woodruff, Robert Mueller, William E. Leighton, and Philip A. Shaffer and Rev. A. M. Schwitalla, S. J.

INFANT MORTALITY

It is gratifying to look at the figures showing the decrease in infant mortality during the war period. At a time when the birth rate was at a rapid rise, living conditions were overly crowded and medical personnel was sadly depleted the mortality rate of infants was, and still is, in steady decline. Due to advances in medicine, especially the extended use of sulfa drugs, improved prenatal care, increase in hospital deliveries, the Emergency Maternity and Infant Care program inaugurated by the Federal Government and higher standards of living for a large proportion of the population there were approximately 19,000 fewer deaths among children under 1 year of age than there would have been if the 1940 death rate had prevailed. And in areas where the infant mortality was highest the greatest relative improvement prevailed. Outstanding among the figures are those representing deaths from premature birth, the most prominent cause of infant death, which were reduced by more than 13 per cent between 1940 and 1943.

NEWS NOTES

Dr. E. Claude Bohrer, West Plains, has been elected president of West Plains' new Civic Music Club.

Former Lt. Commander Sam A. Bassett, Richmond Heights, has been awarded the Bronze Star for "resourcefulness, great skill in administering to the wounded, coolness, gallantry and devotion in prosecution of his duties under attack by enemy dive bombers, torpedo planes and suicide bombers during five major amphibious operations" aboard the escort carrier Marcus Island.

Dr. Asa Barnes, Jefferson City, has been appointed director of general medical services of the American Red Cross. Dr. Barnes was discharged recently from the Army Medical Corps with the rank of colonel after more than four years' service. Before entering service he was connected with the Missouri State Health Department and practiced in Dexter.

Dr. Robert Elman, St. Louis, will speak on "Pre and Postoperative Care" on March 7 at a Clinical Conference sponsored by The Chicago Medical Society. The Conference will be held at the Palmer House, Chicago, March 5, 6, 7 and 8.

Dr. Clifton Smith, St. Joseph, was reelected president of the Buchanan County Tuberculosis Society.

Staff officers for 1946 for the Missouri Methodist Hospital, St. Joseph, were elected as follow: President, Dr. G. T. Bloomer; vice president, Dr. Clifton Smith, and secretary-treasurer, Dr. Maxwell Day. The executive committee consists of Drs. O. E. Whitsell, J. J. Bansbach and J. M. Allaman.

Lt. Col. Brian Blades, St. Louis, has been appointed professor of surgery at George Washington University School of Medicine at Washington, D. C. He has been chief of the thoracic surgery section of Walter Reed General Hospital for the last three and a half years and last spring was cited by the Army for his work in improving the technics of chest surgery.

Dr. E. C. Snavely, Sedalia, has been reappointed Pettis County physician.

Drs. Paul Forgrave, Charles Greenberg, H. E. Petersen and J. M. Allaman have been named to a public health committee which will investigate the proposal for a public health unit for St. Joseph and Buchanan County.

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

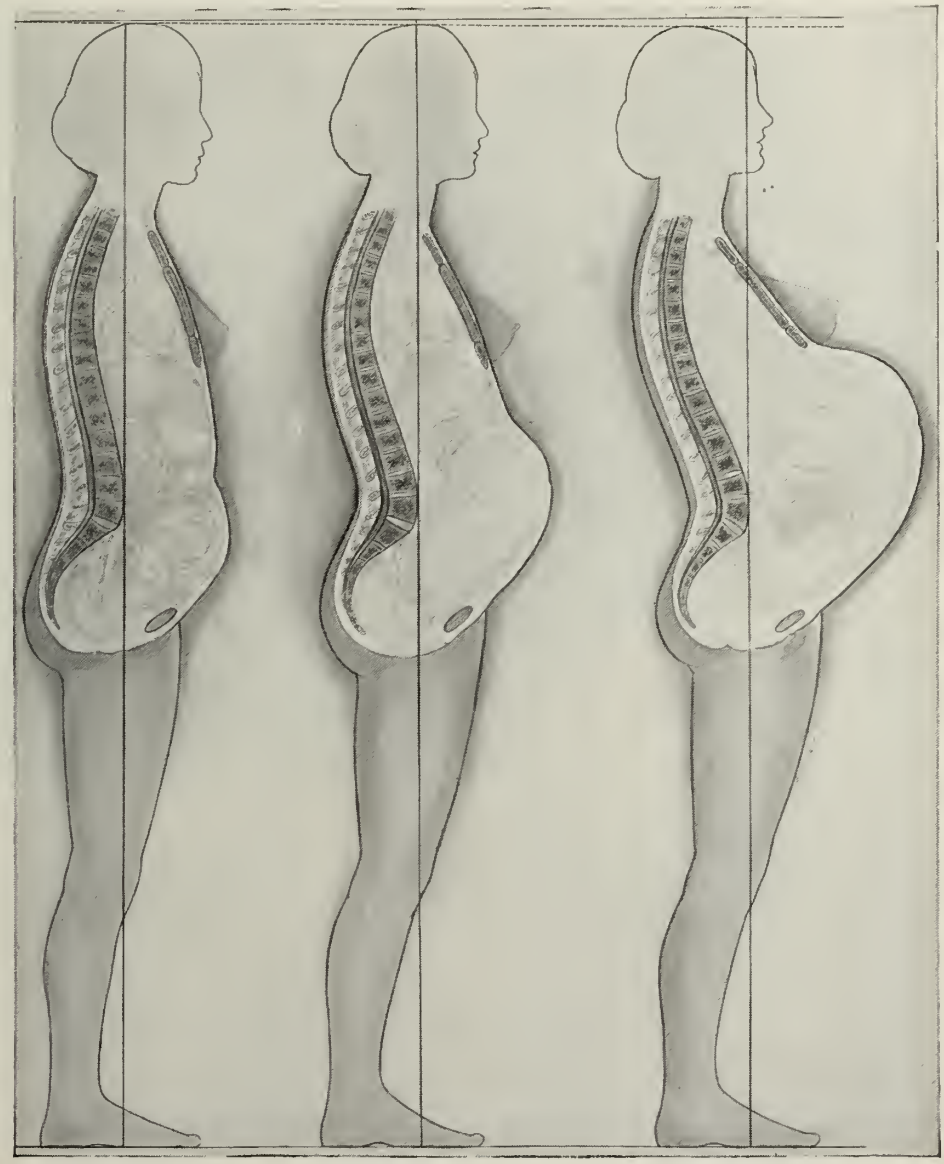
Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Atkins, James, M.D., Lamar.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Broyles, Watkins A., M.D., Bethany.
Brumm, Harold J., M.D., St. Joseph.
Camp, George H., M.D., Springfield.
Chiarotinno, Joseph F., M.D., St. Joseph.
Cooper, Maurice E., M.D., Columbia.
Craig, Owen, M.D., St. Joseph.
Crouch, F. Richard, M.D., Farmington.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Elkins, Ronald F., M.D., Springfield.
Ellis, Coburn H., M.D., Sweet Springs.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Goldberg, I. E., M.D., Polo.
Greene, Harry L., M.D., Hannibal.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.
Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D., Springfield.
Hughes, J. M., M.D., St. Joseph.
Isbell, Charles, M.D., Carthage.
Johnston, Andrew D., M.D., Waynesville.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kinney, Wm. M., M.D., Riverside, Calif.
Kitchen, William M., M.D., Moberly.
Knepper, Paul, M.D., St. Joseph.
Kulowski, Jacob, M.D., St. Joseph.
Landau, Daniel B., M.D., Hannibal.
Leech, Charles A., M.D., Columbia.
Lewellen, Charles H., M.D., Louisiana.
McDonald, W. P., M.D., St. Joseph.
McKinstry, Karl V., M.D., DeSoto.
McNew, William T., M.D., Carthage.
McPheeters, J. W., M.D., Poplar Bluff.
Morse, Marvin, M.D., St. Joseph.
Mullinax, Orr., M.D., St. Joseph.
Murphy, B. L., M.D., Hannibal.
O'Brien, James A., M.D., Joplin.
O'Donoghue, James, M.D., St. Joseph.
Platz, John H., M.D., Carrollton.
Post, Winfred L., M.D., Joplin.
Redmond, William, M.D., St. Joseph.
Robichaux, E. B., M.D., Excelsior Springs.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Saferstein, H. T., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Scorse, S. W., M.D., Webb City.
Senne, Herbert C., M.D., St. Joseph.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stacey, W. T., M.D., St. Joseph.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Talty, M. H., M.D., St. Joseph.
Taylor, Leon A., M.D., Jefferson City.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Throgmorton, H. B., M.D., Sikeston.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Wepprich, Michael S., M.D., St. Charles.
Whitten, Foster, M.D., Carthage.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Allen, William B., M.D., Kansas City.
Baer, Alvin J., M.D., Kansas City.
Beal, Homer A., M.D., Kansas City.
Becker, Richard R., M.D., Kansas City.
Bee, James E., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brams, Jack B., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Buhler, Victor B., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.

BODY MECHANICS OF PREGNANCY

• STUDIES FROM LIFE MODELS DURING PREGNANCY • *Illustration by Charlotte S. Holt*



4 LUNAR MONTHS *7 LUNAR MONTHS* *10 LUNAR MONTHS*



The postural changes during pregnancy are due to the compensatory backward shift of the center of gravity caused by forward pull of the load of the pregnant uterus.

Note the retracted shoulders, carriage of head (pride of pregnancy), and the accentuation of the natural lumbar lordosis which relieves abnormal tension on back and leg muscles.

Camp Supports aid in reducing this forward traction and assist the mother in maintaining better balance.

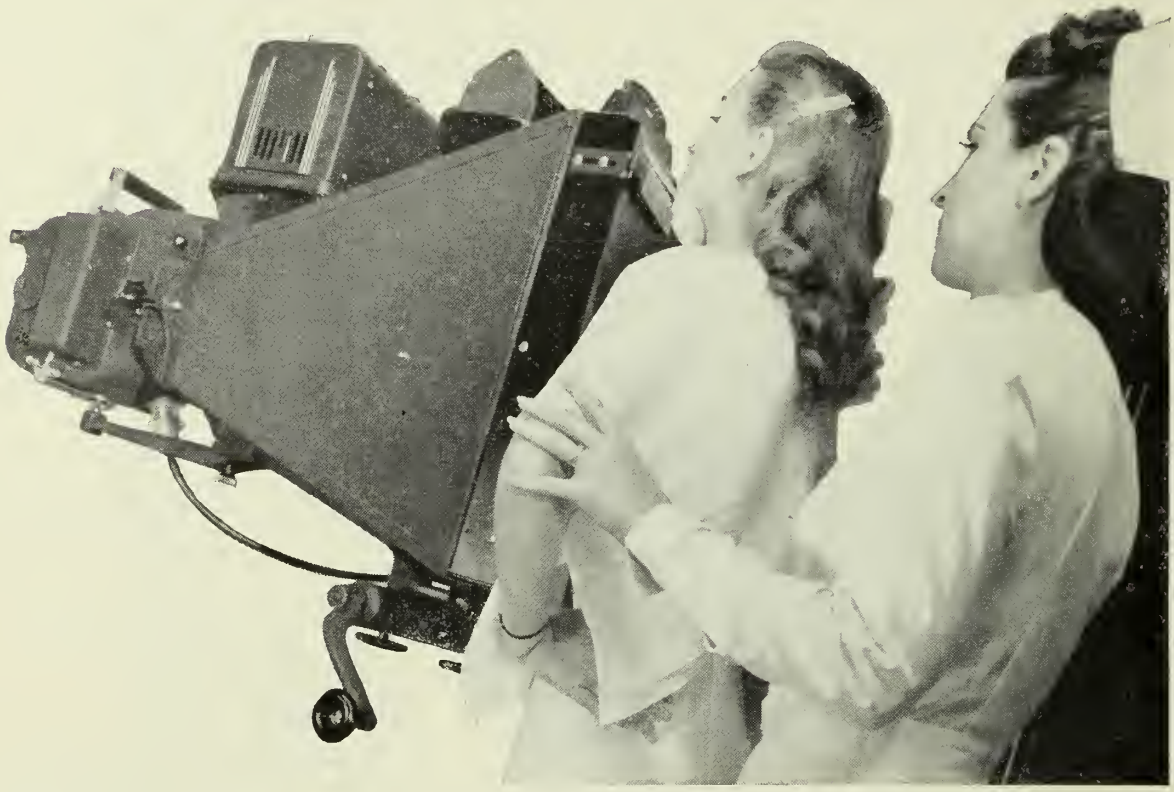
CAMP

S. H. CAMP & COMPANY

World's Largest Manufacturers of Scientific Supports

Jackson, Michigan • *Offices in* Chicago • New York • Windsor, Ontario • London, England

Is Your Community Awaiting an X-Ray Chest Survey?



Through well-directed educational campaigns sponsored by tuberculosis organizations throughout the nation, men, women, and children have been learning about technological developments which today make it economically feasible to conduct x-ray chest exminations of large groups of people for the purpose of detecting unsuspected tubercular infections in apparently healthy individuals.

Public interest having been so thoroughly aroused, many communities have adopted individually planned x-ray chest survey programs as a most effective measure for tuberculosis control—for screening out and isolating individuals who, "ignorant of the fact that they have the disease, unknowingly jeopardize their own lives and the lives of those with whom they come in contact."

Come the time when such a survey is suggested for your community, and your professional advice probably sought by the local tuberculosis society, we shall be glad to help you prepare a summary which would evaluate the various methods and facilities used for different types of chest surveys. These evaluations, may we assure you, will be unprejudiced, as G-E photo-roentgen apparatus is not limited to but one model, nor restricted to the use of one size of film. Address General Electric X-Ray Corporation, 175 W. Jackson Blvd., Chicago 4, Illinois.



For Your Reception Room—this booklet will prove of absorbing interest to waiting patients. It commemorates the 50th Anniversary of the discovery of x-ray, and recounts the notable contributions of x-ray science, not only to medicine but also to many important phases of industry. Send for your complimentary copy. Ask for Pub. C13.

GENERAL ELECTRIC X-RAY CORPORATION

Caldwell, John K., M.D., Kansas City.
Carlson, Hjalmar E., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coburn, Donald F., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Cohen, Harry K., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Erni, Harry, M.D., Kansas City.
Eubank, D.M., M.D., Raytown.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gard, Raymond F., M.D., Kansas City.
Ginsberg, Norman A., M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Gist, William W., M.D., Kansas City.
Glasscock, Ernest L., M.D., Kansas City.
Goodman, LeRoy, M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Griffith, George W., M.D., Garden City.
Growdon, John A., M.D., Kansas City.
Halperin, Phillip, M.D., Kansas City.
Hamilton, Eugene, M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hollweg, K. C., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Howard, John C., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M.D., Kansas City.
Johnston, Paul N., M.D., Kansas City.
Klein, Edward H., M.D., Kansas City.
Kranson, Seymour J., M.D., Kansas City.
Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lacy, Eugene N., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Levey, Harry B., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Marks, Mark M., M.D., Kansas City.
McAlester, A. W., M.D., Kansas City.
McClanahan, Robert C., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Miller, Gerald L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morest, F. Stanley, M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.
Myers, Robert M., M.D., Kansas City.
Nelson, Charles S., M.D., Kansas City.
Owens, Guy E., M.D., Kansas City.
Parker, Hubert M., M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Perry, Ralph, M.D., Kansas City.
Richardson, Lyman K., M.D., Kansas City, Kansas.
Robb, Thomas P., M.D., Kansas City.
Robinson, E. Kip, M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Roy, Gustave A., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Schutz, Richard B., M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.
Stockwell, Arthur L., M.D., Kansas City.
Stofer, Dar D., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Tasker, Charles, M.D., Kansas City.
Underwood, Johnson J., M.D., Kansas City.
Unger, Harold, M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.
Wilkinson, E. A., M.D., Kansas City.
Willhelmy, E.W., M.D., Kansas City.
Wilson, F. I., M.D., Kansas City.
Wood, Laurence E., M.D., Kansas City, Kansas.
Wright, Robert Paul, M.D., Kansas City.
Ziegler, A.M., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Aker, Cecil G., M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Bagby, James W., M.D., St. Louis.
Bailey, W. H., M.D., St. Louis.
Barger, John A., M.D., Florissant.
Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Bassman, Roland S., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Becker, George H., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Birsner, Louis J., M.D., St. Louis.
Boedeker, Roy V., M.D., St. Louis.
Bortnick, Arthur R., M.D., St. Louis.
Bressler, Bernard, M.D., St. Louis.
Brown, Seymour, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Carney, Joseph E., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Catanzaro, Anthony F., M.D., St. Louis.
Charles, B. H., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Conrad, Adolph H., Jr., M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Dalton, Arthur R., M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Devereaux, James A., M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dobbs, Otto R., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.
Fletcher, Paul F., M.D., St. Louis.
Flynn, George T., Jr., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.

Freimuth, L. E., M.D., St. Louis.
Friedewald, Vincent E., M.D., St. Louis.
Furlow, Leonard T., M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Graul, Elmer G., M.D., St. Louis.
Gray, William H., M.D., Yakima, Wash.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Gunn, Walter T., M.D., St. Louis.
Harbison, Samuel P., M.D., Sewickley, Pa.
Hall, Lee A., M.D., St. Louis.
Hall, Robert A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hamlett, Wm. H., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Hartnett, Dalton C., M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Hennelly, John J., M.D., St. Louis.
Hermann, Morris, M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Jensen, J. Ernst, M.D., St. Louis.
Jordan, Edward J., M.D., St. Louis.
Jostes, Frederick A., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Keffler, Karl L., M.D., St. Louis.
Kelly, R. Emmet, M.D., St. Louis.
Kelly, Robert W., M.D., St. Louis.
Kirstein, Melvin B., M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Knight, Wm. A., Jr., M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Krebs, Joseph M., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Lattuada, Henry P., M.D., Danville, Ill.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
Londe, Sol, M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
Luedde, Philip S., M.D., St. Louis.
Macnish, James M., M.D., St. Louis.
Malles, Conrad, M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
McGuire, Wm. A., M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Max, Paul, M.D., St. Louis.
Max, Paul F., M.D., St. Louis.
Meador, J. R., M.D., Clayton.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Michael, Vernon E., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mistachkin, Norman L., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mueller, Clarence E., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
O'Reilly, Daniel E., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.
Patton, John F., M.D., St. Louis.
Pelz, Mort D., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Piekarski, Anthony A., M.D., St. Louis.
Post, Cyril A., M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Raines, Oney C., Jr., M.D., Gulfport, Miss.
Reh, Edward P., M.D., St. Louis.
Reich, Harry A., M.D., St. Louis.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Roche, Maurice B., M.D., St. Louis.
Rosenfeld, Henry, M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Rusk, Howard A., M.D., New York City.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schuck, Carl A., M.D., Hamilton, Ohio.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Scott, Wendell G., M.D., St. Louis.
Senturia, Ben D., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Smith, Hugh R., M.D., St. Louis.
Steubner, Roland W., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stindel, C. E., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Strub, Giles J., M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Susanka, Wm. Dee, M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Vaughan, J. Russell, M.D., St. Louis.
Virant, John A., M.D., Ladue.
Warson, S. R., M.D., St. Louis.
Wasserman, Helman C., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weiner, David O., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.
Wood, Bennett R., M.D., St. Louis.
Wulff, George J. L., Jr., M.D., St. Louis.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for March and April, which all members are invited to attend, beginning at 1:00 p. m., follows:

March 1: Gynecological and Genito-urinary.
March 6: Miscellaneous.
March 8: Breast.
March 13: Skin.
March 15: Cervix.
March 20: Gastrointestinal.
March 22: Head and Neck.
March 27: Skin.
March 29: Bone and Lymphomas.
April 3: Miscellaneous.
April 5: Gynecological and Genito-urinary.
April 10: Skin.
April 12: Breast.
April 17: Gastrointestinal.

MISSOURI STATE MEDICAL ASSOCIATION

88th Annual Session, Jefferson Hotel, St. Louis

The Eighty-eighth Annual Session of the Association convenes at the Jefferson Hotel, St. Louis, Sunday, Monday and Tuesday, March 24, 25 and 26, 1946.

TIME AND PLACE OF MEETINGS

Sunday, March 24

10:00 a. m. Council. Room 7, Second Floor, Jefferson Hotel.
2:00 p. m. House of Delegates. Crystal Room, Mezzanine Floor, Jefferson Hotel.
6:30 p. m. Dinner of Committee on Cardiac Diseases. Gold Room, Jefferson Hotel.

Monday, March 25

8:30 a. m. Scientific Session. Gold Room, Jefferson Hotel.
12:00 noon. Annual Meeting of Committee on Maternal Welfare. Crystal Room, Jefferson Hotel.
12:00 noon. Council. Room 8, Jefferson Hotel.
2:00 p. m. Scientific Session. Gold Room, Jefferson Hotel.
3:30 p. m. Scientific Session. Crystal Room, Jefferson Hotel.
7:30 p. m. Annual Banquet in Honor of Past Presidents. Gold Room, Jefferson Hotel.

Tuesday, March 26

8:30 a. m. Election of Councilors by Delegates from all Districts.
9:00 a. m. Scientific Session. Gold Room, Jefferson Hotel.
2:00 p. m. House of Delegates. Crystal Room, Jefferson Hotel.
4:30 p. m. Council. Crystal Room, Jefferson Hotel.

SCIENTIFIC PROGRAM

Monday, March 25, 1946, 8:30 a. m.—Gold Room, Jefferson Hotel

8:30 a. m. to 10:00 a. m.

Blood

R. O. Muether, M.D., St. Louis, Moderator

Experiences With Blood Banking in Europe and Application of Blood Banks to Civilians, Harry Agress, M.D., St. Louis.
Clinical Significance of the Rh Factor, Henry Allen, M.D., St. Louis.
Recent Observations on Anemia in Scurvy, Leo J. Wade, M.D., St. Louis.
The Antianemic Activity of Folic Acid, Carl V. Moore, M.D., St. Louis.
Questions and Open Discussion.

10:00 a. m. to 10:30 a. m. View of Exhibits.

10:30 a. m. to 12:00 noon.

Significant Developments in the Field of Chest Diseases

H. I. Spector, M.D., St. Louis, Moderator

Tuberculosis, Jay Arthur Myers, M.D., Minneapolis, Minn.
The Pneumonias, Ralph A. Kinsella, M.D., St. Louis.
Chest Tumors, Evarts Graham, M.D., St. Louis.
Chronic Suppurations, James Mudd, M.D., St. Louis.
X-Ray of the Chest, LeRoy Sante, M.D., St. Louis.
Panel Discussion.
Questions and Open Discussion.

2:00 p. m. to 3:00 p. m. Veterans Administration, Colonel J. C. Harding, M.C., Washington, D. C.

3:00 p. m. to 3:30 p. m. View of Exhibits.

3:30 p. m. to 5:00 p. m.

The Kidney and Hypertension

C. H. Neilson, M.D., St. Louis, Moderator

Recent Advances in Renal Function Tests, William H. Olmsted, M.D., St. Louis.
Clinical Correlations Between the Kidney and Hypertension, Edward Massie, M.D., St. Louis.
Renal Lithiasis: Recent Advances in Treatment, Dalton K. Rose, M.D., St. Louis.

Renal Insufficiency in Extrarenal Disease, Edward H. Reinhard, M.D., St. Louis.
Questions and Open Discussion.

Tuesday, March 26, 1946, 9:00 a. m.—Gold Room, Jefferson Hotel

9:00 a. m. to 10:30 a. m.

Electrolyte and Water Balance

G. O. Broun, M.D., St. Louis, Moderator

Normal Mechanisms and Methods of Administration and Dangers, R. O. Muether, M.D., St. Louis.
Problems in Pediatrics, Alexis F. Hartmann, M.D., St. Louis.
Problems in Surgery, Robert Elman, M.D., St. Louis.
Problems in Medicine, J. B. Stubbs, M.D., St. Louis.
Questions and Open Discussion.

10:30 a. m. to 11 a. m. View of Exhibits.

11:00 a. m. The Notable Advance of the Understanding and Treatment of Cardiovascular Disease in the Last Decade, Paul D. White, M.D., Boston, Massachusetts.

BANQUET IN HONOR OF PAST PRESIDENTS

Monday, March 25, 1946, 7:30 p. m.—Gold Room, Jefferson Hotel

A. S. Bristow, M.D., Princeton, President, Presiding

Tendered by Officers of the Association, Presidents and Secretaries of County Medical Societies, Members of the House of Delegates, Members of the Association and Their Guests to Past Presidents of the Association.

Address of Welcome—E. P. Buddy, M.D., St. Louis, President, St. Louis Medical Society.
Address of the President—A. S. Bristow, M.D., Princeton.
Address—Governor Phil M. Donnelly, Jefferson City.

DINNER MEETING OF THE COMMITTEE ON CARDIAC DISEASES

Sunday, March 24, 6:30 p. m.—Gold Room, Jefferson Hotel

Drew Luten, M.D., St. Louis, Toastmaster

The Heart in Women, Burton E. Hamilton, M.D., Boston, Massachusetts.

MATERNAL WELFARE LUNCHEON

Annual Meeting

Monday, March 25, 12:00 noon—Crystal Room, Jefferson Hotel

E. Lee Dorsett, M.D., St. Louis, Chairman, Committee on Maternal Welfare, Presiding

The Heart in Pregnancy, Burton E. Hamilton, M.D., Boston, Massachusetts.
The EMIC Program, L. M. Garner, M.D., Jefferson City.

DELEGATES 1946

County	*Delegate*	*Alternate*
Andrew		
Audrain	W. K. McCall, Laddonia	J. Frank Jolley, Mexico
Barry-Lawrence-Stone	Fred Hargrove, Monett	Frank Kerr, Monett
Barry-Lawrence-Stone	Kenneth Glover, Mt. Vernon	C. A. Brasher, Mt. Vernon
Barry-Lawrence-Stone	Homer Kerr, Crane	John Young, Galena
Barton	Rudolf Knapp, Golden City	James A. Atkins, Lamar
Bates	C. A. Lusk, Jr., Butler	Carter Luter, Butler
Benton	James A. Logan, Warsaw	T. S. Reser, Cole Camp
Boone	A. R. McComas, Sturgeon	M. Pinson Neal, Columbia
Buchanan	A. B. McGlothlan, St. Joseph	Cabray Wortley, St. Joseph
Butler	F. L. Kneibert, Poplar Bluff	Hardin M. Henrickson, Poplar Bluff
Caldwell-Livingston		
Caldwell-Livingston		
Callaway	R. N. Crews, Fulton	C. C. Ault, Fulton
Camden	E. G. Claiborne, Camdenton	George T. Myers, Macks Creek
Cape Girardeau	Frank Hall, Cape Girardeau	C. A. W. Zimmermann, Cape Girardeau
Carroll		
Carter-Shannon	T. W. Cotton, Van Buren	R. I. Davis, Birch Tree

DELEGATES

County	*Delegate*	*Alternate*
Carter-Shannon		
Cass	David S. Long, Harrisonville	E. M. Griffith, Harrisonville
Chariton	J. W. Hardy, Sumner	G. W. Hawkins, Salisbury
Christian	Charles A. Spears, Billings	
Clay	R. C. Porter, North Kansas City	N. R. Schumacher, Liberty
Clinton		
Cole	John W. McHaney, Jefferson City	Harry B. Stauffer, Jefferson City
Cooper		
Dallas-Hickory-Polk	G. C. Plummer, Buffalo	L. A. Glasco, Urbana
Dallas-Hickory-Polk	A. J. Stufflebam, Humansville	George Robinson, Humansville
Dallas-Hickory-Polk		
DeKalb		
Dent	G. E. Joseph, Salem	L. L. Henson, Bunker
Dunklin	E. L. Spence, Kennett	S. E. Mitchell, Malden
Franklin	Frank G. Mays, Washington	Hubert M. Denny, Union
Greene	W. S. Sewell, Springfield	Jos. G. Siceluff, Springfield
Greene	F. T. H'Doubler, Springfield	R. Ned White, Springfield
Greene	T. Enoch Ferrell, Springfield	Kenneth C. Coffelt, Springfield
Grundy-Daviess	C. H. Cullers, Trenton	Oliver F. Duffy, Trenton
Grundy-Daviess	Fred K. Wilson, Winston	J. Z. Parker, Pattonsburg
Harrison		
Henry	James O. Smith, Clinton	
Holt		
Howard		
Howell-Oregon-Texas-Wright-Douglas	C. P. Callihan, Willow Springs	A. H. Thornburgh, West Plains
Howell-Oregon-Texas-Wright-Douglas	C. A. Cooper, Thayer	T. A. Barnes, Thayer
Howell-Oregon-Texas-Wright-Douglas	L. M. Dillman, Houston	L. M. Edens, Cabool
Howell-Oregon-Texas-Wright-Douglas	R. A. Ryan, Mountain Grove	L. T. VanNoy, Norwood
Howell-Oregon-Texas-Wright-Douglas	M. E. Gentry, Ava	R. M. Norman, Ava
Jackson	B. Landis Elliott, Kansas City	A. G. Asher, Kansas City
Jackson	H. L. Dwyer, Kansas City	R. L. Bower, Kansas City
Jackson	H. M. Gilkey, Kansas City	E. H. Ferguson, Kansas City
Jackson	M. B. Simpson, Kansas City	A. B. Sinclair, Kansas City
Jackson	C. Edgar Virden, Kansas City	C. K. Shofstall, Kansas City
Jackson	V. T. Williams, Kansas City	
Jasper	B. E. DeTar, Joplin	R. C. Newkirk, Joplin
Jasper	R. M. James, Joplin	O. T. Blanke, Joplin
Jefferson	James J. Commerford, Crystal City	John F. Rutledge, Crystal City
Johnson	O. H. Damron, Warrensburg	
Laclede	Paul A. Jenkins, Lebanon	R. E. Harrell, Lebanon
Lafayette	C. T. Ryland, Lexington	E. S. Wallace, Lexington
Lewis-Clark-Scotland	P. W. Jennings, Canton	
Lewis-Clark-Scotland	J. R. Bridges, Kahoka	
Lewis-Clark-Scotland	Earl Gilfillan, Memphis	
Lincoln		
Linn		
Macon	T. P. Gronoway, Macon	Howard S. Miller, Macon
Marion-Ralls	W. F. Francka, Hannibal	J. W. Hardesty, Hannibal
Marion-Ralls	John E. Brown, Perry	
Mercer	Marion Lambert, Princeton	C. P. Pickett, Princeton
Miller	W. L. Allee, Eldon	G. D. Walker, Eldon
Mississippi	C. C. Presnell, Charleston	Sam. P. Martin, East Prairie

Washington University School of Medicine

Postgraduate Courses
1946

For Returning Medical Officers and Civilian Physicians

I. **Internships, Assistant Residencies and Residencies** in the Allied Hospitals.
II. **Extern and Fellowship Instruction** in clinical departments, including residency experience.
III. **Graduate Instruction** in basic sciences.
IV. **Advanced or Graduate Courses** in specialties.
V. **New Methods of Diagnosis and Therapy** in the specialties.
VI. **Continuation Courses** for general practitioners.

Tuition for former Medical Officers eligible under Public Law 364 (GI Bill of Rights) for educational benefits will be paid by the United States Government.

For circulars and information address:
Franklin E. Walton, M.D.
Assistant Dean

Washington University School of Medicine
Euclid and Kingshighway, St. Louis 10, Missouri

All worth while laboratory examinations; including—

Tissue Diagnosis
The Wassermann and Kahn Tests
Blood Chemistry
Bacteriology and Clinical Pathology
X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization
Basal Metabolism
Pregnancy Test
Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association



WHEN the menopausal storms set in—vasomotor disturbances, mental depression, unaccountable pain and tension—physicians today can take prompt, positive action to alleviate symptoms.

By the administration of a reliable solution of estrogenic substances, you may exert a gratifying measure of control.

For control of menopausal symptoms, you may turn with confidence to Solution of Estrogenic Substances, Smith-Dorsey . . . manufactured in the fully equipped, capably staffed Smith-Dorsey Laboratories . . . meeting rigid standards of purity and potency.

With such a medicinal, you can indeed *do something* about "stormy weather."

SOLUTION OF *Estrogenic Substances*

SMITH-DORSEY

Supplied in 1 cc. ampuls and 10 cc. ampul vials representing potencies of 5,000, 10,000 and 20,000 international units per cc.



THE SMITH-DORSEY COMPANY

LINCOLN • NEBRASKA

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

DELEGATES

County	*Delegate*	*Alternate*
Moniteau		
Montgomery		
Morgan	J. L. Washburn, Versailles	W. G. Gunn, Versailles
New Madrid		
Newton	C. E. Maness, Neosho	D. A. Campbell, Neosho
Nodaway-Atchison-Gentry-Worth	Charles D. Humberd, Barnard	
Nodaway-Atchison-Gentry-Worth	Henry C. Bauman, Fairfax	
Nodaway-Atchison-Gentry-Worth	Samuel E. Simpson, Stanberry	
Nodaway-Atchison-Gentry-Worth	Pren J. Ross, Grant City	
North Central—		
Adair	J. J. Wimp, Kirksville	A. F. Miller, Kirksville
Schuyler	H. E. Gerwig, Downing	Ida Nulton, Lancaster
Knox	F. E. Luman, Edina	U. R. Reynolds, Knox City
Sullivan	Warner Herington, Green City	J. S. Montgomery, Milan
Putnam	E. A. Montgomery, Unionville	P. V. Hart, Coatesville
Pemiscot		
Perry	Oscar A. Carron, Perryville	Theodore Fischer, Altenburg
Pettis		
Phelps-Crawford	R. E. Breuer, Newburg	E. A. Stricker, St. James
Phelps-Crawford	A. H. Horne, Steelville	R. C. Parker, Steelville
Pike	Chas. P. Lewellen, Louisiana	R. L. Andrae, Louisiana
Platte		
Pulaski	R. W. Reed, Richland	C. Miller, Waynesville
Randolph-Monroe	F. L. McCormick, Moberly	T. S. Fleming, Moberly
Randolph-Monroe	F. A. Barnett, Paris	M. C. McMurry, Paris
Ray	L. D. Greene, Richmond	Thos. F. Cook, Richmond
St. Charles		
St. Francois-Iron-Madison-Washington-Reynolds	John W. Hunt, Leadwood	Marvin T. Haw, Bonne Terre
St. Francois-Iron-Madison-Washington-Reynolds	R. E. Harland, Ironton	Ben Bull, Ironton
St. Francois-Iron-Madison-Washington-Reynolds	W. H. Barron, Fredericktown	M. B. Barber, Fredericktown
St. Francois-Iron-Madison-Washington-Reynolds	J. P. Yeargain, Irondale	J. L. Thurman, Potosi
St. Francois-Iron-Madison-Washington-Reynolds	A. F. Bugg, Ellington	
Ste. Genevieve	A. E. Sexauer, Ste. Genevieve	C. J. Clapsaddle, Ste. Genevieve
St. Louis	E. R. Brown, University City	
St. Louis	Otto Koch, St. Louis	
St. Louis	Roy Walther, Jr., Overland	
St. Louis	A. W. Westrup, Webster Groves	
St. Louis	E. B. Waters, Kirkwood	
St. Louis City	Oliver Abel, Jr., St. Louis	Robert E. Britt, St. Louis
St. Louis City	Carl J. Althaus, St. Louis	Delevan Calkins, St. Louis
St. Louis City	William G. Becke, St. Louis	Adolph H. Conrad, St. Louis
St. Louis City	George A. Carroll, St. Louis	Roy C. Dripps, St. Louis
St. Louis City	Armand D. Fries, St. Louis	Maxwell Fineberg, St. Louis

DELEGATES

County	*Delegate*	*Alternate*
St. Louis City	Andrew C. Henske, St. Louis	Omer E. Hagebusch, St. Louis
St. Louis City	R. Emmet Kane, St. Louis	John J. Hammond, St. Louis
St. Louis City	Charles L. Klenk, St. Louis	Loyola F. Hayden, St. Louis
St. Louis City	William B. Kountz, St. Louis	Louis N. Berard, St. Louis
St. Louis City	Neil S. Moore, St. Louis	Marshall W. Kelly, St. Louis
St. Louis City	F. G. Pernoud, St. Louis	Roland S. Kieffer, St. Louis
St. Louis City	M. J. Pulliam, St. Louis	G. Lynn Krause, St. Louis
St. Louis City	A. J. Raemdonck, St. Louis	Clinton W. Lane, St. Louis
St. Louis City	Raoul L. Ramos, St. Louis	Stanley M. Leydig, St. Louis
St. Louis City	Robert E. Schlueter, St. Louis	Joseph A. Lembeck, St. Louis
St. Louis City	A. R. Schreffler, St. Louis	Edward V. Mastin, St. Louis
St. Louis City	A. J. Signorelli, St. Louis	James L. Mudd, St. Louis
St. Louis City	Edgar W. Spinzig, St. Louis	Raymond O. Muether, St. Louis
St. Louis City	Henry P. Thym, St. Louis	Robert M. O'Brien, St. Louis
St. Louis City	Otto J. Wilhelmi, St. Louis	Paul C. Schnoebelen, St. Louis
St. Louis City	V. Visscher Wood, St. Louis	J. Earl Smith, St. Louis
St. Louis City	William E. Leighton, St. Louis	Jerome E. Cook, St. Louis
St. Louis City	E. P. Buddy, St. Louis	B. C. Portuondo, St. Louis
Saline	George A. Aiken, Marshall	C. A. McBurney, Slater
Scott	W. O. Finney, Chaffee	E. J. Nienstedt, Sikeston
Shelby		
Stoddard		
Taney		
Vernon-Cedar	Wm. H. Allen, Nevada	Wm. J. Cremer, Nevada
Vernon-Cedar	J. W. Dawson, Eldorado Springs	J. R. Williams, Eldorado Springs
Webster	C. R. Macdonnell, Marshfield	E. G. Beers, Seymour

HOUSE OF DELEGATES

First Meeting—Sunday, March 24, 1946—2:00 p. m.

Crystal Room, Jefferson Hotel

Order of Business

Report of Committee on Credentials.
Reading of Minutes of Previous Meeting (Published in July, 1944, Journal).
Report of General Committee on Arrangements: J. W. Thompson, M.D., St. Louis.
Report of Local Committee on Arrangements: E. P. Buddy, M.D., St. Louis.
Appointment of Reference Committees:
- Amendments to Constitution and By-Laws.
- Resolutions.
- Miscellaneous Affairs.
- Medical Education and Public Welfare.

Reading of President's Message and Recommendations.
Report of Executive Secretary.
Report of Treasurer.
Report of Standing Committees:
- Scientific Work: Harry C. Lapp, M.D., Kansas City, Chairman.
- Postgraduate Course: R. O. Muether, M.D., St. Louis, Chairman.
- Publication: R. L. Thompson, M.D., St. Louis, Chairman.
- Public Policy and Public Relations: Robert Mueller, M.D., St. Louis, Chairman.
- Defense: C. E. Hyndman, M.D., St. Louis, Chairman.
- Medical Education and Hospitals: Dudley S. Conley, M.D., Columbia, Chairman.
- Cancer: E. C. Ernst, M.D., St. Louis, Chairman.
- Medical Economics: Carl F. Vohs, M.D., St. Louis, Chairman.
- Mental Health: B. Landis Elliott, M.D., Kansas City, Chairman.
- Maternal Welfare: E. Lee Dorsett, M.D., St. Louis, Chairman.
- Infant Care: U. J. Busieck, M.D., Springfield, Chairman.
- Health and Public Instruction (McAlester Foundation): M. D. Overholser, M.D., Columbia, Chairman.
- Constitution and By-Laws: O. S. Gilliland, M.D., Kansas City, Chairman.
- Fractures: Frank D. Dickson, M.D., Kansas City, Chairman.
- Conservation of Eyesight: C. Souter Smith, M.D., Springfield, Chairman.
- Control of Venereal Disease: Rogers Deakin, M.D., St. Louis, Chairman.
- Industrial Health: H. I. Spector, M.D., St. Louis, Chairman.

Report of Special Committees:
  Physical Therapy: F. H. Ewerhardt, M.D., St. Louis, Chairman.
  Tuberculosis: E. E. Glenn, M.D., Springfield, Chairman.
  Study of Cardiac Diseases: J. DeVoine Guyot, M.D., Jefferson City, Chairman.
  Postwar Planning: M. Pinson Neal, M.D., Columbia, Chairman.
  Adviser to Woman's Auxiliary: H. L. Mantz, M.D., Kansas City.
Report of the Council: W. A. Bloom, M.D., Fayette, Chairman.
Appointment of Committee on Nominations.
New Business.
Selection of Place of Next Meeting.

Second Meeting—Tuesday, March 26, 1946—2:00 p. m.

Crystal Room, Jefferson Hotel

Report of Committee on Credentials.
Election of Officers:
  Election of President.
  Election of President-Elect.
  Report of the Committee on Nominations.
  Report of Election of Councilors.
Installation of the President.
Reading of Minutes.
Report of Reference Committees:
  Amendments to Constitution and By-Laws.
  Resolutions.
  Miscellaneous Affairs.
  Medical Education and Public Welfare.
Report of the Council.
Unfinished Business.

COMMERCIAL EXHIBITS

Jefferson Hotel

SCHENLEY LABORATORIES, INC., 350 FIFTH AVE., NEW YORK. BOOTH 1.

The Schenley Laboratories' Exhibit is devoted entirely to penicillin and penicillin products. A series of transilluminated Kodachromes of various pyogenic skin infections show the therapeutic effecacy of Penicillin Ointment Schenley. A

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
MERLE Q. HOWARD, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.

ARTHUR J. PATEK, M.D.

G. H. SCHROEDER,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



IN INFECTIONS COMPLICATING PREGNANCY, DELIVERY, and the PUERPERIUM

ACCUMULATING evidence* points to penicillin as a therapeutic agent of choice not only in puerperal and postabortive sepsis but also against infections complicating pregnancy (when the causative organisms are penicillin-sensitive). Since penicillin crosses the placenta into the fetal circulation, it may affect penicillin-susceptible infection in the fetus.

*Davis, C. H.: Gonorrheal Arthritis Complicating Pregnancy Treated with Penicillin, Am. J. Obst. & Gynec. 50:215 (Aug.) 1945.

Hudson, G. S., and Rucker, M. P.: Gas Bacillus Infection of the Uterus Treated with Penicillin, Am. J. Obst. and Gynec. 50:452 (Oct.) 1945.

Woltz, J. H. E., and Zintel, H. A.: The Transmission of Penicillin to Amniotic Fluid and Fetal Blood in the Human, Am. J. Obst. & Gynec. 50:338 (Sept.) 1945.

Mitchell, R. McN., and Kaminester, S.: Penicillin; Case Report of a Patient Who Recovered from Puerperal Sepsis Hemolytic Streptococcic Septicemia, Am. J. Surg. 63:136 (Jan.) 1944.

White, R. A.: Puerperal Sepsis Treated with Penicillin, Southern M. J. 37:524 (Sept.) 1944.

PENICILLIN-C.S.C.

These features bespeak the physician's preference for Penicillin-C.S.C.: It is made under rigid laboratory controls which safeguard its potency, sterility, low toxicity, and freedom from pyrogens. The high degree of purification of Penicillin-C.S.C. is indicated by the pale color and small volume of the material in either the 100,000- or 200,000-unit vials. This makes untoward reactions comparatively rare, even when massive dosage and prolonged administration are required.

PHARMACEUTICAL DIVISION
COMMERCIAL SOLVENTS
Corporation
17 East 42nd Street New York 17, N. Y.

CSC

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

Penicillin-C.S.C. is accepted by the Council on Pharmacy and Chemistry of the American Medical Association.



well-informed attendant will gladly discuss any phase of penicillin therapy and developments with interested physicians.

C. B. FLEET CO., INC., 921-927 COMMERCE ST., LYNCHBURG, VA. BOOTH 2.

C. B. Fleet Co. is displaying Phospho-Soda (Fleet), a saline eliminant, an ethical product for over half a century. What you as a physician may expect from this stable, nontoxic concentrate of the two U.S.P. sodium phosphates is: accurate dosage regulated to the patient and to his condition; the maximum therapeutic effectiveness of sodium phosphate; quick, gripeless evacuation for emergencies; mild, controllable elimination for chronic biliary disturbance or constipation, unusual freedom from after irritation, with normalizing buffer action and safe action with administration of the sulfonamides.

J. B. LIPPINCOTT COMPANY, EAST WASHINGTON SQUARE, PHILADELPHIA. BOOTH 3.

J. B. Lippincott Co. presents a complete list of Lippincott selected professional books, including the New (2nd) Edition of Geschickter's "Diseases of the Breast." New books of significant interest include: Bancroft and Murray's "Surgical Treatment of the Motor-Skeletal System"; Thomas and Haddan's "Amputation Prosthesis"; Groff and Houtz's "Manual of Diagnosis and Management of Peripheral Nerve Injuries"; Foot's "Pathology in Surgery" and Wolf's "The Physician's Business." You may obtain advance information on many other new books and new editions in active preparation.

MEAD JOHNSON & COMPANY, EVANSVILLE, IND. BOOTHS 4 AND 5.

"Servamus Fidem" means "We Are Keeping the Faith." Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum and other infant diet materials including the new precooked oatmeal cereal, Pabena. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to Booths 4 and 5 will be time well spent.

W. B. SAUNDERS COMPANY, WEST WASHINGTON SQUARE, PHILADELPHIA. BOOTH 6.

This publishing house is exhibiting its complete line of books, including Bockus' three volume work on "Gastroenterology," new (5th) edition of Beckman's "Treatment," new (4th) edition of Christopher's "General Surgery," Ash and Spitz "Atlas of Pathology of Tropical Diseases," Jackson and Jackson's "Diseases of the Nose, Throat and Ear," new (4th) edition of Mitchell and Nelson's "Pediatrics," Moorhead's "Clinical Traumatic Surgery," Herrell's "Penicillin and Streptomycin," Wohl's "Dietotherapy," "Manual of Tropical Medicine," new (3rd) edition of Levine's "Clinical Heart Disease," new (3rd) edition of Stokes, Beerman & Ingraham's "Syphilology," Orr's "Operations of General Surgery," Pullen's "Medical Diagnosis," new (2nd) edition of Mason's "Pre- and Post-operative Care," new (2nd) edition of Graybiel & White's "Electrocardiography," and many others.

THE WM. S. MERRELL COMPANY, LOCKLAND STATION, CINCINNATI. BOOTH 7.

MERRELL
Since 1828

Among the more recent products of Merrell Research featured at this exhibit are the potentiated sulfonamide cream, Sulfa-Ceepryn, the better-tolerated synthetic estrogen, Hexestrol, and the "complete treatment" group of Ceepryn Vaginal Products. Members and guests of the Association are cordially invited to visit the Merrell exhibit.

A. S. ALOE COMPANY, 1831 OLIVE ST., ST. LOUIS. BOOTH 8.

A. S. Aloe Company is showing a cross section of its complete line of equipment, instruments and supplies for the physician and surgeon. Visitors to the A. S. Aloe Company, 19th and Olive, just six blocks from the Jefferson Hotel, will be more than welcome.

C. V. MOSBY COMPANY, 3207 WASHINGTON BLVD., ST. LOUIS. BOOTH 9.

The C. V. Mosby Company extends a cordial invitation to visit Booth No. 9 where medical publications of timely interest are on display. Courteous representatives are present to discuss your book needs with you.

BURROUGHS WELLCOME & CO., 9-11 EAST 41ST ST., NEW YORK. BOOTH 10.

Burroughs Wellcome & Co. welcome physicians to their exhibit of a representative group of fine pharmaceuticals and chemicals. Of particular interest are Globin Insulin, a new advance in diabetic control; Digoxin, a pure, stable, crystalline glycoside of Digitalis lanata, combining constant, uniform potency with rapidity of action and "Dexin," High Dextrin Carbohydrate, the milk modifier in which the nonfermentable portion predominates.

PARKE, DAVIS & CO., DETROIT, MICH. BOOTH 11.

DUMAS-WILSON & CO. PHARMACEUTICALS, 5579 PERSHING, ST. LOUIS. BOOTH 12.

Dumas-Wilson & Co. is displaying a complete line of U.S.P. Primary Yeasts offered in tablet, powder, chip and liquid forms; also Amino Acids for oral use in concentrated form and with Dextrose and Malt.

DENVER CHEMICAL MFG. CO., INC., 163 VARICK ST., NEW YORK. BOOTH 13.

Galatest, dry reagent for the instantaneous detection of urine sugar, is now used routinely by leading hospitals, medical departments of industries. Army induction and separation centers and a constantly increasing number of private practitioners. Acetone Test (Denco), dry reagent for the rapid detection of



The active ingredient of Koromex Jelly is phenylmercuric acetate, whose remarkable contraceptive efficiency was affirmed in the illuminating report by Eastman and Scott (Human Fertility 9:33 June 1944). Their clinical and experimental data confirmed the earlier findings of Baker, Ranson and Tynen (Lancet 2:882 October 15, 1938). In addition to its excellent spermicidal efficacy, Koromex Jelly possesses to a high degree those other qualities which are physiologically and aesthetically so important to patients . . . For these reasons you can prescribe Koromex Jelly with *confidence*.

ACCEPTED AMERICAN MEDICAL ASSN.

Write for literature.

Holland-Rantos Co., Inc.

551 Fifth Avenue, New York 17, N. Y.

acetone in urine, has been enthusiastically received by hospitals and physicians. Both these reagents are simple, accurate, speedy and economical. They are on display at Booth 13.

SCHERING CORPORATION, 86 ORANGE ST., BLOOMFIELD, N. J. BOOTH 14.

Presented are the purest and most potent hormones available, products which have set the standard in modern endocrine therapy. Selected specific chemotherapeutic agents and the products which are effective as diagnostic roentgenographic and cholecystographic substances are displayed. The result of major scientific research and based upon objective clinical observations, products of Schering Corp. are displayed together with charts and graphic material designed to assist the practicing physician.

PHILIP MORRIS & COMPANY, LTD., INC., 119 FIFTH AVE., NEW YORK. BOOTH 15.

Philip Morris & Co. is demonstrating the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject and problems on the physiologic effects of smoking.

GERBER PRODUCTS COMPANY, FREMONT, MICH. BOOTH 16.

MERCK & CO., INC., RAHWAY, N. J. BOOTH 17.

Merck & Co., Inc., appreciate the opportunity of exhibiting at the initial postwar Convention of the Missouri State Medical Association. The attending physician may obtain information on prescription chemicals, vitamins, antibiotics and well known Merck medicinal specialties at the Merck booth. The Merck representatives in attendance are glad to be of service.

THE MEDICAL PROTECTIVE COMPANY, FORT WAYNE. BOOTH 18.

The Medical Protective Co. invites you to call at Booth 18. Medical Protective Service is an institution of the medical profession whose legal liability problems they have concentrated upon for forty-six years. Bring your professional liability questions and problems to Booth 18. Their representative is at your service to present their Protection plan, to explain the peculiar relation of the doctor to the law which governs your practice or to discuss any particular phase of Professional Liability in which you are especially interested.

J. R. SIEBRANDT MFG. CO., INC., 3239 TROOST AVE., KANSAS CITY. BOOTH 19.

Siebrandt Mfg. Co., Inc., will show a new type Portable Fracture Table, which will serve for reduction and alignment of the various conditions required in fracture treatment. The table base is built of plywood, plastic and aluminum, fully transparent for X-ray service. Its cross-T traction mechanism eliminates the bars under the legs. The outstanding feature is a full length Cassette Tunnel for holding all sizes of X-ray Cassettes for either pelvic, spinal or cervicle examination without disturbing the patient. The legs of the table are quickly removable and permit the table to be placed on a regular X-ray table if mobile X-ray unit is not available. The top of the table is constructed like a box with a lid to serve as container and will hold mechanical accessories, including removable legs, for storage. They will also show the Goodwin Bone Clamp, Clayton Transfixion Splints and other fracture equipment.

E. R. SQUIBB & SONS, 745 FIFTH AVE., NEW YORK. BOOTH 20.

E. R. Squibb & Sons offers a technical exhibit intended to further the conservation and more effective use of penicillin.

F. E. YOUNG & COMPANY, 422 EAST 75TH ST., CHICAGO. BOOTH 21.

F. E. Young & Company is displaying Young's Rectal Dilators Set. The Dilator Set consists of a series of four bakelite Dilators graduated in size and introduced in series, as the Anal Sphincter muscles become accustomed to dilatation. Young's Dilators are used by physicians to treat certain cases of constipation, dysmenorrhea, rectal neurosis, Phuritus Ani and other conditions which may arise due to a tight or spastic sphincter muscle.

SMITH, KLINE & FRENCH LABORATORIES, FIFTH AND ARCH STS., PHILADELPHIA. BOOTH 22.

Benzedrine Sulfate Tablets, N.N.R., and Dexedrine Sulfate Tablets are featured at this exhibit. Since its introduction some ten years ago, Benzedrine Sulfate, N.N.R. (racemic amphetamine sulfate) has grown steadily in clinical usefulness and today occupies a unique place in routine medical practice. For certain selected cases, however, it is often desirable to employ a drug combining an even more preponderant central nervous stimulation with a relatively weaker peripheral effect. A closely related compound. Dexedrine Sulfate (dextro-amphetamine sulfate)—precisely fulfills these requirements. A specially trained professional representative will be glad to answer questions concerning the possible uses of these products in your practice.

NATIONAL DRUG COMPANY, 4663 STENTION AVE., PHILADELPHIA. BOOTH 23.

HOLLAND-RANTOS COMPANY, INC., 551 FIFTH AVE., NEW YORK. BOOTH 24.

You are cordially invited to visit the Holland-Rantos booth where on display is the nationally known and universally used Koromex contraceptive specialties. Besides the new Koromex Set Complete, which is a package combining the necessary items for complete contraceptive technic, there is the new Nylmerate Jelly introduced only a short time ago and received enthusiastically for the treatment of trichomoniasis and vaginal discharges of a nonspecific origin. Representatives of the company are on hand to answer all questions. Samples of Nylmerate Jelly and Koromex Jelly are available as are copies of the Dickinson Freret Charts.

M & R Dietetic Laboratories, Inc., 585 Cleveland Ave., Columbus, Ohio. Booth 25.

M & R Dietetic Laboratories is displaying Similac, a food for infants deprived either partially or entirely of breast milk. The company's representatives will appreciate the opportunity to discuss the merit and suggested application for both the normal and special feeding cases.

Gradwohl Laboratories, 3514 Lucas Ave., St. Louis. Booth 26.

Gradwohl Laboratories' exhibit shows the activities of this institution, namely, performance of laboratory tests, the publication of a monthly journal on laboratory procedures called "The Laboratory Digest," manufacture of laboratory reagents and the training of laboratory technicians. Full information and literature are available at the exhibit.

Sandoz Chemical Works, Inc., 68 Charlton St., New York. Booth 27.

For the non-narcotic relief of migraine physicians will be interested in Gynergen (ergotamine tartrate). Recently released is Glysennid for atonic constipation; it contains the crystalline glycosides from senna leaves, Sennosides A and B recently isolated in the Sandoz Research Laboratories. Also displayed are Cedilanid, stable preparation of lanatoside C, a crystalline glycoside from digitalis lanata, not present in purpurea, and Syrup Neo-Calglucon, a palatable, highly concentrated preparation for oral calcium therapy readily absorbed from the digestive tract. Other well known Sandoz products include Bellergal, Belladenal, Bellafoline, Digilanid, Scillaren, Strophosid, Calglucon and Neo-Calglucon.

Ciba Pharmaceutical Products, Inc., Lafayette Park, Summit, New Jersey. Booth 28.

Physicians are cordially invited to visit the display of Ciba Products at Booth 28. The potent androgenic hormones, Perandren and Metandren, are prominently displayed. Metandren Linguets, offering economy and effectiveness, is featured. Privine, a powerful vasoconstrictor of particularly prolonged action, occupies an outstanding position. Especially interesting to surgeons is Nupercaine, which can be used for prolonged spinal anesthesia according to technic recently described by Adriani. New forms of the synthetic antispasmodic, Transentine, namely ampuls and suppositories, merit attention. Other outstanding Ciba Products are exhibited.

Hamilton-Schmidt Surgical Company, 215 N. 10th St., St. Louis. Booth 29.

The Hamilton-Schmidt Surgical Co. is showing a new stock of imported, genuine Stille instruments, Burdick physiotherapy equipment and other medical specialties which are of general interest.

Frederick Stearns & Company Division, 6533 E. Jefferson St., Detroit. Booth 30.

You are cordially invited to visit the exhibit of Frederick Stearns & Co. A member of the company's professional staff is in attendance to discuss these distinctive professional specialties developed in the Stearns Research Laboratories: Neo-Synephrine Hydrochloride—sympathomimetic drug for intranasal, ophthalmic and parenteral use; Parenamine—a solution of amino acids, used in the prophylaxis and therapy of protein deficiency; Adnephrin—for symptomatic relief of bronchial asthma; Fergon—a better tolerated, better utilized iron salt and also, the Fairchild enzyme products now manufactured solely by Frederick Stearns & Co. under the original Fairchild processes—Pepsencia, Gastron and Holadin.

Camel Cigarettes, One Pershing Square, New York. Booths 31 and 42.

Camel Cigarettes is exhibiting large detailed photographs of equipment used in comparative tests of the five largest-selling brands of cigarettes. Dramatic visualization of nicotine absorption in the human respiratory tract from cigarette smoke is demonstrated. International news with the Camel Cigarette Trans-Lux "Flash Bulletins," may be seen while enjoying a supply of slow-burning Camel Cigarettes.

White Laboratories, Inc., 113 N. Thirteenth St., Newark. Booth 32.

"The 'Junket' Folks," Chr. Hansen's Laboratory, Inc., Little Falls, N. Y. Booth 33.

Displayed at Booth 33 are enlarged photos illustrating the action of the rennet enzyme in forming softer finer milk curds. Free literature describes dietary uses of rennet-custards in infant, child, convalescent or postoperative feeding. Attendants are on duty. A complimentary package of "Junket" Rennet Powder and "Junket" Rennet Tablets will be presented to physicians who register.

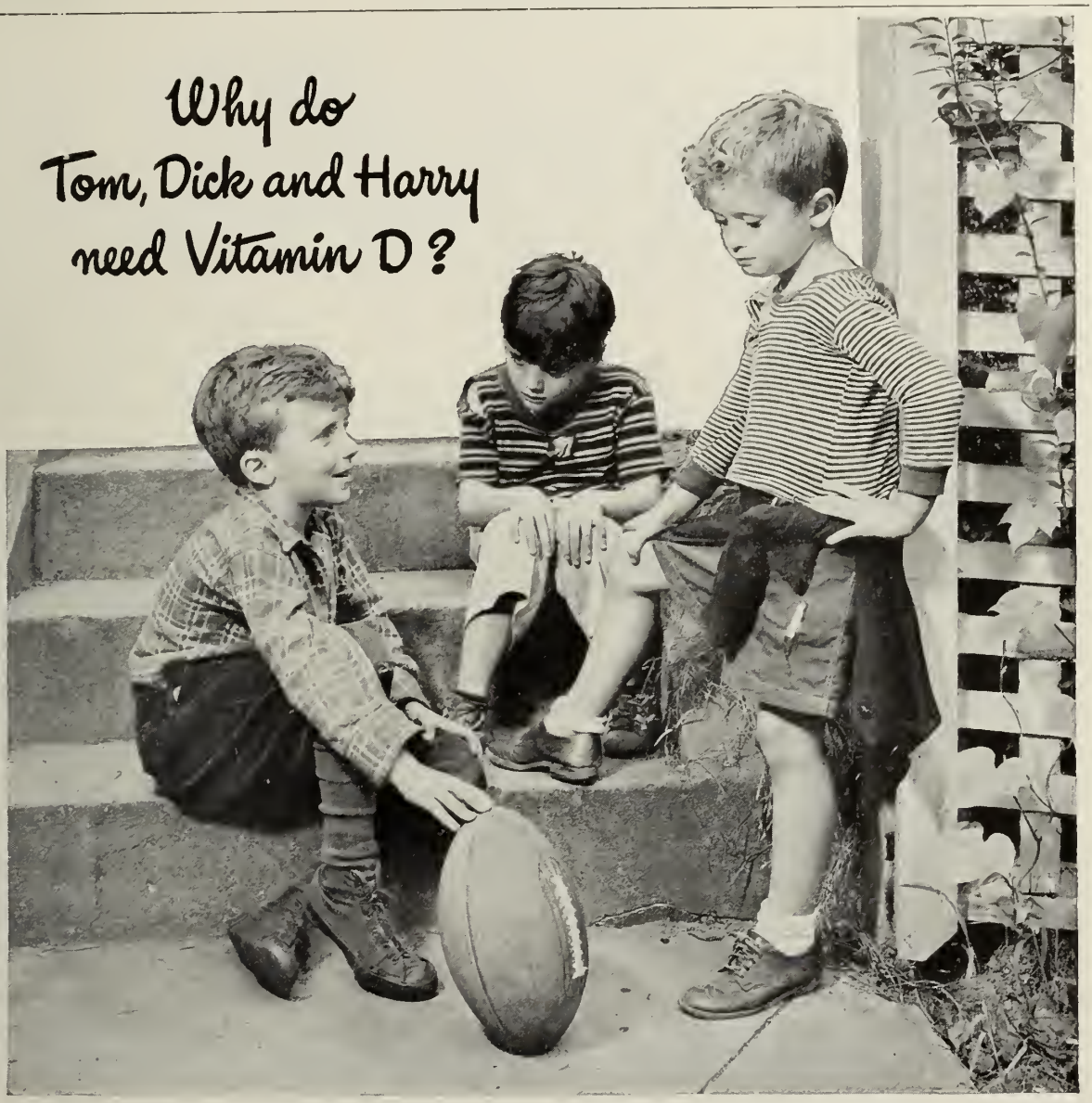
G. D. Searle & Company, Chicago. Booth 34.

You are cordially invited to visit the Searle booth where representatives will be happy to answer questions pertaining to Searle Products of Research. Featured is Searle Aminophyllin, Metamucil, Ketochol, Floraquin, Diodoquin, Pavatrine, Tetrathione and Gonadophysin.

J. E. Hanger, Inc., 1912 Olive St., St. Louis. Booth 35.

Hanger substitute limbs are the result of 84 years continuous experience in the art of creating, fitting and wearing replacement limbs. Every known amputation, regular and irregular, has been fitted successfully, not once, but hundreds of times, including disarticulation of the shoulder and disarticulation of the hip. Hanger limbs are constructed of Duralumin, an alloy of aluminum and also of light English Willow. They are noted for comfort and durability, lightness and

Why do Tom, Dick and Harry need Vitamin D?



Growing children require vitamin D mainly to prevent rickets. They also need vitamin D, though to a lesser degree, to insure optimal development of muscles and other soft tissues containing considerable amounts of phosphorus . . . Milk is the logical menstruum for administering vitamin D to growing children, as well as to infants, pregnant women and lactating mothers. This suggests the use of Drisdol in Propylene Glycol, which diffuses uniformly in milk, fruit juices and other fluids.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

DRISDOL IN PROPYLENE GLYCOL

TRADEMARK REG U S. PAT. OFF & CANADA

Brand of Crystalline Vitamin D_2 (calciferol) from ergosterol

MILK DIFFUSIBLE VITAMIN D PREPARATION

Odorless-Tasteless-Economical

Average daily dose for infants 2 drops, for children and adults 4 to 6 drops, in milk.

Available in bottles of 5, 10 and 50 cc. with special dropper delivering 250 U.S.P. units per drop.

WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician • New York 13, N.Y. • Windsor, Ont.

simplicity of construction. The Hanger patented Hip Control thigh leg, eliminating all suspenders and shoulder straps, is considered one of the great advances in the art.

Shampaine Company, 1332 Dolman, St. Louis. Booth 36.

The S-1503 Perfection Major Operating Table is on exhibit. This table is designed and constructed so as to afford complete headend control in conjunction with new technics in surgery. All controls and levers are within the reach of the anesthetist seated at the headend of the table and are operated by touch control. A complete demonstration of this table will gladly be given to all visitors. Also on display at this booth is the S-1533 Martin All-Purpose Table which is undoubtedly the leading hydraulic physicians' chair on the market today. This table is an all-purpose unit, and is adaptable to rectal, genito-urinary, gynecologic, ear, nose, and throat and ophthalmic work. In conjunction with the Shampaine Company's complete line of physicians' office furniture the S-4120 Steelux Examining Table is also displayed.

Pet Milk Sales Corporation, 1401 Arcade Bldg., St. Louis. Booths 37 and 38.

At Booths 37 and 38 you will find a complete display of material illustrating the time-saving Pet Milk services available to physicians. Specially trained representatives are in attendance to give you information about the production of Pet Milk and its use for infant feeding. Miniature cans will be given to physicians visiting the exhibit.

Spencer, Incorporated, New Haven, Conn. Booth 39.

You are cordially invited to visit Spencer's exhibit, featuring Spencer Individually Designed Supports for abdomen, back and breasts. Doctors will be especially interested in these supports for patients who have undergone mastectomy. You will also be interested in the Spencer Spinal Support for patients following cast removal or as an aid to treatment of ruptured disk and other back derangements. Supports for patients with hernia, visceroptosis with symptoms, postoperative needs, obesity, prenatal and postpartum needs are also on display.

Winthrop Chemical Company, Inc., 170 Varick St., New York. Booth 40.

A hearty welcome awaits physicians visiting Winthrop's Booth 40. Representatives will gladly discuss Winthrop products, and upon request, furnish valuable booklets.

Bilhuber-Knoll Corp., 377 Crane St., Orange, New Jersey. Booth 41.

A complete line of fine medicinal chemicals is on display for your inspection. Among these useful products are: Bromural, sedative and mild hypnotic; Dilaudid, analgesic and cough sedative; Metrazol, stimulant and restorative; Octin, antispasmodic in ureteral and like spasms, and Theocalcin and Phyllicin, diuretic and myocardial stimulants. These and Bilhuber-Knoll's other products may be described alone or in combination with other drugs. Thus you can individualize their use in your prescriptions to the needs of each patient. We invite your discussions on the practical and scientific use of these every-day prescription chemicals.

The Coca-Cola Company, Wilmington, Del. Booths 43 and 44.

Coca-Cola is being served through the joint courtesy of the Coca-Cola Bottling Co. of St. Louis and The Coca-Cola Co. at Booths 43 and 44.

The Borden Company, 350 Madison Ave., New York. Booth 45.

Spend a few minutes with Borden at Booth 45 and refresh your memory on Borden's Prescription Products. Meet the new concentrated Biolac; New Improved Dryco with its formula flexibility; Mull-Soy for your milk allergic patients; powdered whole milk Klim; the improved milk sugar Beta Lactose, and the Merrell-Soule Protein and Lactic Acid Milks. Borden men are pleasant men!

Nutrition Research Laboratories, 4210 Peterson Ave., Chicago. Booth 46.

Nutrition Research Laboratories is featuring Ertron in both the oral and parenteral forms. New information is now available concerning this product which is being used so extensively in the treatment of chronic arthritis. Also on display is Infron Pediatric, the new approach to the problem of rickets prophylaxis and, in addition, Bezon, Whole Vitamin B Complex in its new improved capsule form. Members of the Professional Department are in attendance at all times at Booth 46 to welcome members and guests of the Association.

Lea & Febiger, 600 Washington Square, Philadelphia. Booth 47.

At Booth 47, Lea & Febiger is exhibiting among their works Soffer's "Diseases of the Adrenals," Stone and Dufault's "Diagnosis and Treatment of Pulmonary Tuberculosis," Bell on "Renal Diseases," Quiring's "The Extremities," Olkon's "Essentials of Neuropsychiatry," Burch and Winsor's "Primer of Electrocardiography" and Babcock's "Principles and Practice of Surgery." New editions are being shown of Katz's "Electrocardiography," Levinson and MacFate's "Clinical Laboratory Diagnosis," Musser's "Internal Medicine," Cowan's "Refraction of the Eye," Craig and Faust's "Clinical Parasitology," Kuntz on the "Autonomic Nervous System," Comroe's "Arthritis," Boyd's "Pathology of Internal Diseases," "Wiggers' "Physiology in Health and Disease," Kovac's "Electrotherapy" and other standard works.

United Medical Equipment Co., 210 W. 8th St., Kansas City. Booth 48.

United Medical Equipment Co. is exhibiting their new direct-recording electrocardiograph called the EPL Cardiotron.

FITTING ESTROGENIC THERAPY TO THE CASE



"Premarin" Liquid, No. 869 . . . for greater flexibility of dosage, and to provide a graduated estrogenic intake where required. Each teaspoonful is the equivalent, in potency, of one "Premarin" Half-Strength Tablet, No. 867.



"Premarin" Tablet, No. 866 . . . for severe estrogenic deficiencies requiring a highly potent yet essentially safe and well-tolerated preparation. Full therapeutic doses of "Premarin" induce a prompt response as judged by vaginal smears and by relief of subjective symptoms.



"Premarin" Tablet, Half-Strength, No. 867 . . . for "average" cases which can be controlled with less than full therapeutic doses. It is recognized that, in the menopause, the smallest effective dose of an estrogen is the *optimal* dose.

ACCEPTED
AMERICAN MEDICAL ASSN.
Council on Pharmacy and Chemistry

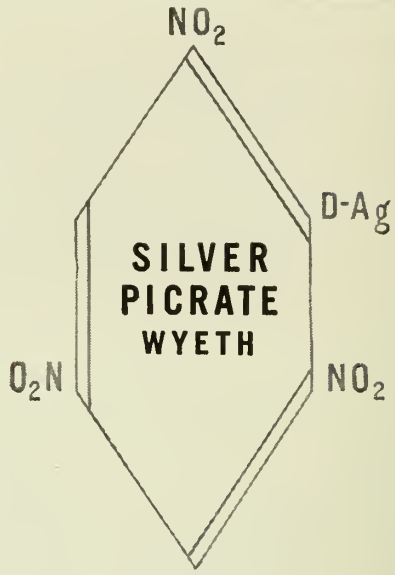
Highly Potent • Orally Active • Water Soluble • Naturally Occurring • Essentially Safe • Well Tolerated • Imparts a Feeling of Well-Being.

"Premarin"
Reg. U. S. Pat. Off.
CONJUGATED ESTROGENS
(equine)

AYERST, McKENNA & HARRISON LIMITED • 22 East 40th Street, New York 16, N. Y.

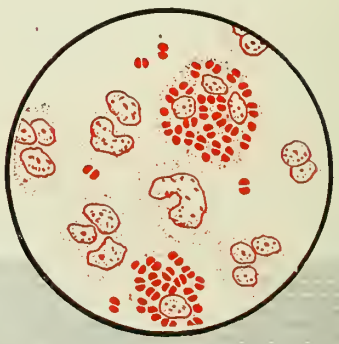
PICRAGOL

TRADE-MARK



PICRAGOL is an effective agent in the treatment of urethritis and vaginitis. Its specific action is especially valuable for the control of trichomoniasis or moniliasis of the vagina and for trichomonas infections of Bartholin's or Skene's glands.

PICRAGOL CRYSTALS, Bottles of 2 grams. • COMPOUND PICRAGOL POWDER, Silver Picrate Wyeth, 1 per cent, in a kaolin base. Packages of six 5 gram vials. • VAGINAL SUPPOSITORIES PICRAGOL, Silver Picrate Wyeth, 0.13 grams, in a boroglyceride-gelatin base. Packages of 12 • VAGINAL SUPPOSITORIES PICRAGOL, *for infants*, Silver Picrate Wyeth, 65 mg., in a boroglyceride-gelatin base. Packages of 12.





Wyeth

WYETH INCORPORATED • PHILADELPHIA 3 • PA.

Ortho Pharmaceutical Corporation, Linden, N. J. Booth 49.

Ortho Pharmaceutical Products is exhibiting their complete line of Gynecic Pharmaceutical specialties including their well known Council Accepted products for the control of contraception, Aci-jel for vaginal therapy, Nutri-sal for selected cases of infertility, Hexital for treatment of the menopause, Hexestrol for oral estrogenic therapy and Triple Sulfa designed specifically for treatment of bacterial vaginal infections.

The Maltine Company, 745 Fifth Ave., New York. Booth 50.

Maltine Co. is exhibiting the old as well as the new. Such fine products as Maltine with Cod Liver Oil, Malto-Yerbine and Neoferrum have enjoyed favorable recognition for many years. They have been joined by Tedral, Proloid, Depancol and other developments of The Maltine Co.'s research laboratories. A cordial invitation is extended to you to visit Booth 50, where descriptive literature and samples are available.

Carnation Company, Oconomowoc, Wis. Booth 51.

You are invited to visit the Carnation Company booth where you may see an unusual reproduction of the Carnation Milk Farm and find presented some interesting information on the various uses of Carnation Vitamin D Evaporated Milk for infant feeding, child feeding and general diet purposes. The method by which Carnation Milk is generously fortified with Vitamin D, 400 U.S.P. Units per reconstituted quart, will be explained. Valuable literature is available for distribution.

The Pelton & Crane Company, 632 Harper Ave., Detroit. Booth 52.

Pelton & Crane Co. is exhibiting Autoclaves, Instrument Sterilizers and Operating Lights.

Kelley-Koett Manufacturing Co., Covington, Ky. Booth 53.

On display at the Keleket Booth is the new Keleket Mobile-Portable Unit. This combination gives you many of the advantages found in the more expensive, full-scale equipment. It provides a complete range of positions, both vertical and horizontal, for either radiography or fluoroscopy. Also featured at the Keleket booth is the Keleket KY Mobile Unit. Physicians have long recognized the KY as versatile complement to larger apparatus; and, in cases where space is limited or other equipment unavailable, as an effective all purpose unit offering complete radiographic coverage. Its easy mobility allows it to be used with any professional table in the office. Visit the Kelley-Koett booth at any time during the Exhibit. Representatives will be glad to demonstrate these fine units to you.

Eli Lilly and Company, Indianapolis. Booth 54.

The Lilly exhibit is featuring an interesting demonstration in miniature on Penicillin culture. Many Lilly products are on display, and attending Lilly medical service representatives are present to assist visiting physicians in every possible way.

Dairy Council of St. Louis, 4030 Chouteau Ave., St. Louis. Booth 55.

Dairy Council's exhibit is contained in a modernistic display featuring "Vitamins—you need them every day, get them from the foods you eat." It consists of a series of lighted transparencies showing in full color the natural foods which are main sources of the commonly known vitamins. Copies of their quarterly publication, *Nutrition News*, edited for the profession are available for free distribution; also, copies of their recipe book, "Good Eating."

The Mennen Company, Newark. Booth 56.

The Mennen Company is exhibiting their two baby products, Mennen Antiseptic Baby Oil and Mennen Antiseptic Baby Powder, in addition to their fungicidal foot powder, Quinsana. The Antiseptic Oil is now being used routinely in the majority of the hospitals that are important in maternity work.

Westinghouse Electric Corporation, 411 No. 7th St., St. Louis. Booth 57.

The exhibit of Westinghouse Electric Corporation, X-Ray Division, and Dick X-Ray Company will feature X-ray equipment and supplies.

Jones Metabolism Equipment Co., 3905 Olive St., St. Louis. Booth 58.

The Missouri Office of The Jones Metabolism Company is displaying the latest models of their New Jones Motor Basal Metabolism unit. It is offered in two colors, white and walnut. Their district manager in charge of the booth will be glad to demonstrate the machines and answer questions. Jones Headquarters for Missouri are located at 3905 Olive St., St. Louis, where a complete stock of supplies and repair parts are carried at all times.

Ames Company, Inc., Elkhart, Ind. Booth 59.

Ames Co. is demonstrating new technics for qualitative detection of urine-sugar and albumin. The Clinitest tablet method for detection of urine-sugar is a simple, reliable test for use by the diabetic patient and in the laboratory; the table reagent develops its own heat inside the test tube, eliminating the need for burners or other equipment. The new Ames Albumintest tablet for urine-albumin gives the physician, technician and public health worker a reliable, nonpoisonous, noncorrosive reagent tablet and does not require the use of heat.

Cameron Heartometer Company, 666 W. Division St., Chicago. Booth 60.

The Cameron Heartometer Co. is showing the improved Heartometer, a scientific precision instrument for accurately recording systolic and diastolic blood pressure. It also furnishes a permanent graphic record of the pulse rate, the nervous functioning of the heart, the myocardial response as well as the func-

tioning of the valves. The Heartometer clearly reveals heart disturbances in both early and advanced stages and is of great value in checking the progress of medication and treatments.

The Hygeia Nursing Bottle Co., 1210 Main St., Buffalo. Booth 61.

Abbott Laboratories, North Chicago. Booth 62.

Lederle Laboratories, 30 Rockerfeller Plaza, New York. Booth 63.

Lederle's extremely large research facilities have brought many specifics to the medical profession. Recently Lederle scientists and their associates have placed at your disposal several specifics of great value in general medical practice and have more to come that they would like to tell you about. Visit Lederle's booth. Samples and literature are available.

Brooks Appliance Company, 5 N. Wabash Ave., Chicago. Booth 64.

See the display at Booth 64. Brooks Appliance Co. is demonstrating the new revolutional treatment of Decongestion with the combination pressure bandages (Contura and Pressoplast). First Aid Dressings, Needles and Syringes, and a complete line of instruments used in the practice of Proctology are also on exhibit.

Farnsworth Laboratories, 28 E. Jackson Blvd., Chicago. Booth 65.

Farnsworth Laboratories invite you to talk with their representative about the treatments of brucellosis or undulant fever and migraine headaches. Literature covering the above treatments may be obtained upon request.

J. H. Emerson Co., 630 Pearl Ave., Kirkwood, Mo. Booth 66.

J. H. Emerson Co. is displaying and demonstrating the Emerson Hospital Model Resuscitator and the Emerson Hot Pack Apparatus.

Warren-Teed Products Company, 582 W. Goodale St., Columbus, Ohio. Booth 67.

Leading Warren-Teed specialties and Council Accepted products are exhibited in a three-piece display. In one of the units are ten translite pictures of scenes in The Warren-Teed laboratories and manufacturing departments. Some of the products which will be of special interest to physicians are: Chlor-U-Cain, the new burn and wound ointment which reduces healing time 50 per cent; Vitaroid, the vitamin compensated thyroid therapy and Li-Betaferron, potent popular secondary anemia hematinic and tonia.

McIntosh Electrical Corporation, 223 N. California Ave., Chicago. Booth 68.

McIntosh Electrical Corp. is glad to demonstrate their equipment to doctors visiting their booth and answer questions about their Short Wave Diathermy Equipment, Polysine Generator, Sinustat and the McIntosh Infra-Red Heat Lamp.

The Zemmer Company, 3943 Sennott St., Pittsburgh. Booth 69.

The Zemmer Company extends to the members of the Missouri State Medical Association and their guests a cordial invitation to visit their exhibit, Booth 69, where they will display a number of their leading pharmaceutical products.

BOOK REVIEW

Mass Radiography of the Chest. By Herman E. Hilleboe, M.D. Medical Director, Chief Tuberculosis Control Division, United States Public Health Service; Professorial Lecturer on Tuberculosis Control, George Washington University School of Medicine, Washington, D. C., and Russell H. Morgan, M.D. Surgeon (R), Medical Officer-in-charge, Radiology Section, Tuberculosis Control Division, United States Public Health Service; Assistant Professor of Roentgenology, Absent on Leave, The University of Chicago. Chicago: The Year Book Publishers. 1945. Price $3.50.

This is a small pocket-sized manual of 288 pages dealing with a timely subject in a thorough and yet concise manner. Both of the authors rank high in their respective fields giving the work authoritative expression which is evident throughout.

The purpose of the book is to collect in one small handbook the pertinent facts which have been contributed by the experiences of many workers in this field and thereby to assist any who contemplate undertaking the field of mass radiography.

After introductory chapters on "History of Mass Radiography," "Objectives of Tuberculosis Control," and "Preliminary Planning for Mass Radiography in a Community," the authors pass on to detailed consideration of the equipment required for this purpose. The electrical equipment, types of transformers best suited to this purpose and construction and operation of various types of roentgen-ray tubes are discussed in detail. Photographic equipment and proper lenses essential for satisfactory operation of this method are considered fully.

All of the physical factors which are brought into play producing such small photographic images are scientifically considered and evaluated.

A valuable chapter deals with the adaptation of "Phototimers" to the apparatus in order to produce an instrument which will mechanically produce uniformity of exposure.

The book further presents a design for installation to fit various needs, with recommendation of roentgen-ray apparatus best suited to these needs, dark room facilities for development and even methods of filing and preserving the films and reading the reports.

For anyone who contemplates mass radiography of the chest for tuberculosis control or utilization of this method for routine hospital or institutional chest examination, this book is indispensable; even for radiologists who do not at present contemplate carrying out this form of radiographic examination, it would seem indispensable for them to thoroughly familiarize themselves with the possibilities of this method of examination.

L. R. S.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

St. Louis, March 24-25, 1946
Coronado Hotel

Tentative Program
Sunday, March 24, 1946

1:00 p. m. Registration at Coronado Hotel.
2:00 p. m. Meeting of Executive Board, Pine Room.
6:00 p. m. Buffet supper and entertainment, Coronado Hotel. Visiting members guests of Woman's Auxiliary to the St. Louis Medical Society.

Monday, March 25, 1946

8:00 a. m. Breakfast for Past Presidents of Woman's Auxiliary to the Missouri State Medical Association. $1.50.
8:30 a. m. Registration.
9:30 a. m. General meeting, Mrs. Harry M. Gilkey, presiding.
Invocation, Rev. E. Clay Frey.
Address of Welcome, Mrs. B. Y. Alvis, President of St. Louis Auxiliary.
Response.
Memorial for deceased members.
Roll Call, Mrs. E. E. Wadlow, St. Joseph, Recording Secretary.
Address, Mrs. David W. Thomas, President, Woman's Auxiliary to the American Medical Association.
Address, Mrs. W. W. Potter, President, Woman's Auxiliary to the Southern Medical Association.
Reports: Officers
Standing Committees
Directors
Credentials
Old Business.
New Business: Resolutions
Nominations
Election of Officers
Installation.
Adjournment.
1:00 p. m. Annual Luncheon, Coronado Hotel. $2.00.
Presiding, Mrs. Harry M. Gilkey.
Invocation, Mrs. Paul Baldwin, Kennett.
Introduction of National Guests.
Address.
Courtesy.
Presentation of Gavel to Incoming President.
3:30 p. m. Post Convention Board Meeting.
Presiding, Mrs. W. E. Koppenbrink, Higginsville.
7:30 p. m. Annual Banquet of Missouri State Medical Association, Gold Room, Jefferson Hotel.

Convention Chairmen

Convention Chairman, Mrs. August A. Werner.
Convention Advisory Committee, Mrs. B. Y. Alvis, Mrs. Roy Mason, Mrs. S. J. King, Mrs. George Ruddell.
Registration, Mrs. N. J. Eversoll.
Credentials, Mrs. Roy C. Dripps.
Finance, Mrs. Armand Fries.
Tickets, Mrs. E. C. Ernst, Mrs. L. M. Riordan.
Printing, Mrs. Reuben M. Smith.
Headquarters, Mrs. John Hotz.
Publicity, Mrs. A. E. Strauss.
Souvenirs, Mrs. Carl Althaus.
Information, Mrs. William Becke.
Courtesy, Mrs. William Nye.
Hostesses, Mrs. Lewis M. Webb.
Breakfast, Mrs. Frank Davis.
Sunday Buffet Supper, Mrs. C. V. Wilcox.
Monday Luncheon, Mrs. F. G. Pernoud, Mrs. A. H. Conrad.
Pages, Mrs. A. H. Conrad, Jr.
Flowers, Mrs. Charles A. Leavy.

Hotel reservations should be made as early as possible. A blank for making reservations appears on page 152.

On the Reviewing Stand of Jackson County Bond Division

Although it is a bit late getting into print, it is none the less interesting and colorful—the panoramic view of the meteoric rise of the Physicians and Dentists Bond Division of Kansas City—in fact all Kansas City. From a modest little booth in the corner of the lobby of the Professional Building to a city wide division in which each drive eclipsed the preceding one in the sale of bonds and the events to promote the sale of bonds, it finally topped the Victory Drive with practically a million, about half of the total for all drives.

With publicity gained from poems written by the chairman and sent to Washington, appearances of famous movie stars such as Bing Crosby and Bob Hope, crayon portraits sketched for the Jackson County Physicians and Dentists Division exclusively by the internationally known artist, Ritchie Cooper, stage shows on Petticoat Lane with one noon devoted to physicians and dentists showing the progress of different branches of service along scientific lines during the war, and other events too numerous to mention, eight Hospital Service Planes were sponsored by that division from the bonds sold.

In the Seventh War Loan with its General Eisenhower Day, in which the general took part in the largest parade ever arranged in Kansas City, the Physicians and Dentists Division did their part in selling enough bonds to buy ten B-29 bombers, as tribute to General Eisenhower.

February 4 spelled "finis" for the Bond Division with a luncheon given at the Women's City Club. There the Physicians and Dentists Division received "Most honorable mention." The over-all total for Kansas City was $763,794,342.75. Keep on buying bonds—they are still your best "bet."

MRS. JAMES C. WALKER, Chairman.

Speaker Refutes Socialized Medicine

At a meeting of the Jackson County Medical Society Auxiliary, Miss Mary Elaine Bourke refuted some of the most prominent arguments offered in behalf of socialized medicine. Her text covered points and questions most likely to be used in favor of government controlled hospitalization and medical treatment. The questions: "Would it be cheaper for the masses?", "Would it be democratic?", "What is the panel system?" and "Can adequate hospitalization insurance be obtained voluntarily?" were discussed and answered. Miss Bourke debated against socialized medicine for Rotary Clubs in New Jersey and college groups in the east before her graduation from Georgian Court College, Lakewood, N. J. She is the daughter of Dr. Timothy S. Bourke, Kansas City.

President's Message

The Ides of March are upon us and so is our 21st annual meeting. The Coronado Hotel will be our home for two inspiring days, March 24 and 25, of conference and reports. All reports should be typewritten, double spaced and in duplicate form. I am counting on all you officers and chairmen and county presidents to have outstanding reports.

It seems that the year is too short to accomplish all that I had hoped to do. There are many counties which should be organized and come under our wings, but our persuasive powers have not been powerful enough.

Advertisement



From where I sit *by* Joe Marsh

Professor Zogi, The Magician Marvelous!

Professor Zogi, the magician, came to our town Saturday, and put on a performance for the benefit of the hospital.

Among other things, the professor holds a pitcher in his hands, and asks folks what they'd have to drink. Ma Hoskins asks for buttermilk and the professor promptly pours her a rich, creamy glassful.

Then Zeb Collins asks for cider, and out of the same pitcher comes a mug of cider. Dr. Walters calls for beer—and, presto, from the pitcher comes a sparkling glass of beer!

"Just goes to show," says the doctor, astonished, "that it takes a magician to satisfy all tastes."

From where I sit, the professor has a mighty good act . . . one that points a moral too. Tastes differ—but people can have a friendly, happy time enjoying the beverage that each prefers—and being tolerant of one another's preferences.

Joe Marsh

Copyright, 1946, United States Brewers Foundation

However, we have laid a few cornerstones which will really develop next year in the able hands of Mrs. W. E. Koppenbrink, our President-elect.

I sent out sixty letters to wives of the presidents and secretaries of county medical societies in which there is no Auxiliary and asked them to become members-at-large. The dues are only $1.00. Names of members-at-large will be included in the roster of the Auxiliary to be published in The Journal of the Missouri State Medical Association. In the first two weeks I have received four answers and I am happy to welcome Mrs. E. C. Rolwing, Charleston; Mrs. G. C. Plummer, Buffalo; Mrs. M. L. Holliday, Filmore, and Mrs. W. T. Eudy, Eminence, as members-at-large. It was most encouraging to receive such prompt returns.

Remember that I have set a goal of 1,000 members for the State of Missouri. This quota should be higher, especially when you know that there are 3,400 members of the Missouri State Medical Association.

I do hope that all can arrange to come to our annual meeting. Mrs. David W. Thomas, the National President, will honor us with a national message. Mrs. W. W. Potter, President of the Woman's Auxiliary to the Southern Medical Association will also honor us with a message from that organization. The third speaker will be an outstanding physician who will be announced later.

It is with regret that the resignation of Mrs. W. M. Bickford, Marshall, as chairman of nominations has been accepted. Mrs. Herbert L. Mantz has graciously consented to serve in her place. Individuals as well as county auxiliaries are urged to send Mrs. Mantz the names of suggested candidates for the various offices. Please send them before the state meeting.

At this time I wish to thank Miss Penn, Mr. and Mrs. Parry, Mr. T. R. O'Brien, Dr. Bristow and our Advisory Council for all their help and cooperation in helping to make this a successful year.

Mrs. Harry M. Gilkey, President.

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting April 8, April 22, and every two weeks thereafter.
Four Weeks Course in General Surgery starting April 8, May 6 and June 3.
One Week Surgery Colon and Rectum starting March 18 and April 29.
One Week Course Thoracic Surgery starting March 11, April 22.

GYNECOLOGY—Two Weeks Intensive Course starting April 22, May 20.
One Week Personal Course in Vaginal Approach to Pelvic Surgery March 18 and April 15.

OBSTETRICS—Two Weeks Intensive Course starting April 8 and May 6.

MEDICINE—Two Weeks Intensive Course starting April 8.

ELECTROCARDIOGRAPHY & HEART DISEASE—Two Weeks Intensive Course starting August 5.

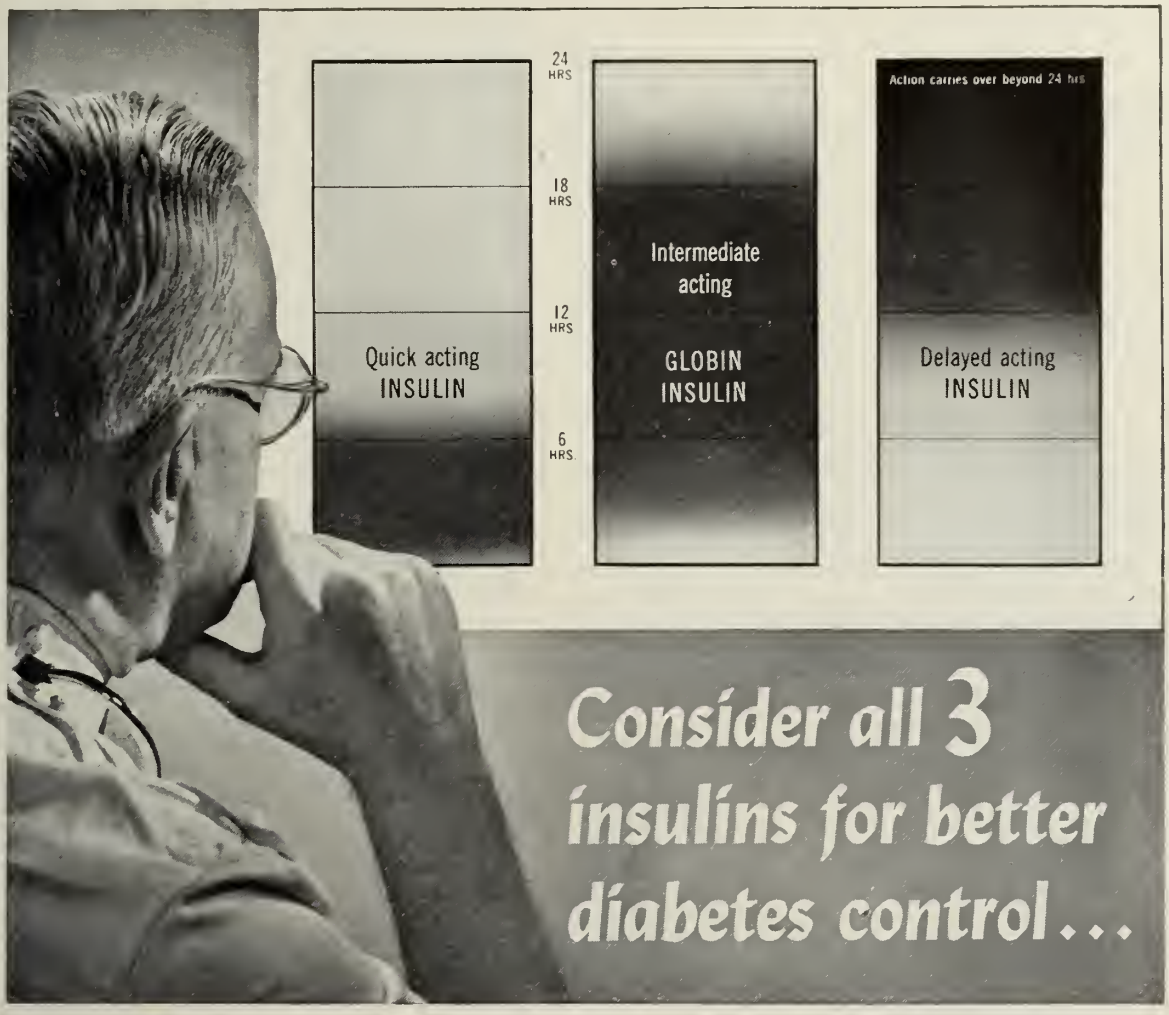
GASTROSCOPY & GASTROENTEROLOGY—Two Weeks Personal Course April 22.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting April 8.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.



THE physician now has three types of insulin available to treat diabetes. One is quick-acting but short-lived. Another is slow-acting but long-lived. The new third one—'Wellcome' Globin Insulin with Zinc—is intermediate.

Action with Globin Insulin begins moderately quickly and persists for sixteen or more hours, sufficient to cover the period of maximum carbohydrate intake. By night, activity is sufficiently diminished so that the likelihood of nocturnal reactions is minimized. A single injection daily of 'Wellcome' Globin Insulin with Zinc will control the hyperglycemia of many diabetics. When a diabetic requires insulin therapy, the physician is wise to consider all *three* insulin types.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its freedom from allergenic properties.

Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in the Wellcome Research Laboratories, Tuckahoe, New York. U. S. Patent No. 2,161,198. Available in vials of 10 cc., 80 units in 1 cc.

'Wellcome' Trademark Registered

'WELLCOME' *Globin Insulin* WITH ZINC

Literature on request.

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

Luzier Cosmetics and Allergy

Women use cosmetics because they have developed a need for them: they are essential to modern standards of good-grooming and therefore contribute to a sense of well-being. Your patient's appearance, viewed cosmetically, is a factor that deserves your consideration both during hospitalization and convalescence. Cosmetics cannot lift faces, but they certainly perform wonders when it comes to lifting a woman's spirits. Women have an instinctive desire to look pretty and to smell sweet.

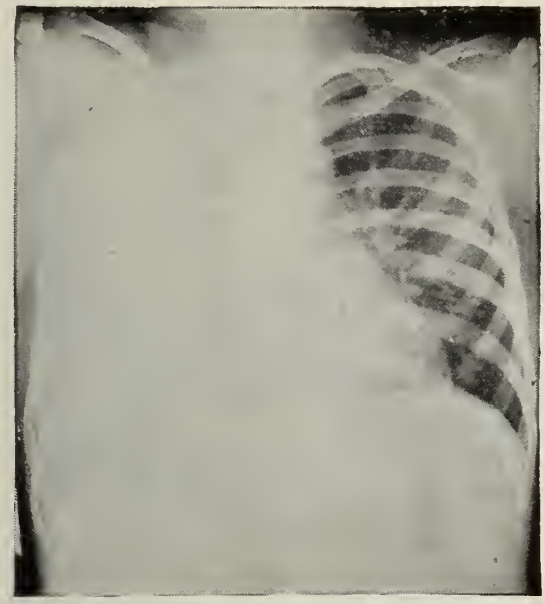
Since cosmetics are so universally used it is not to be wondered that they sometimes figure in the field of allergy. That is why, when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on your request to send you, her doctor, the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

LUZIER'S, INC.,

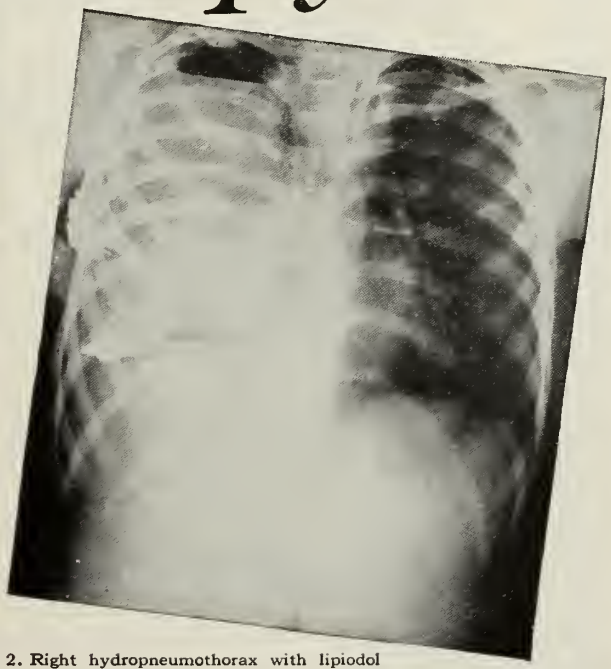
Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI



1. Right lobar pneumonia (type 1) and right empyema.

Penicillin in Empyema



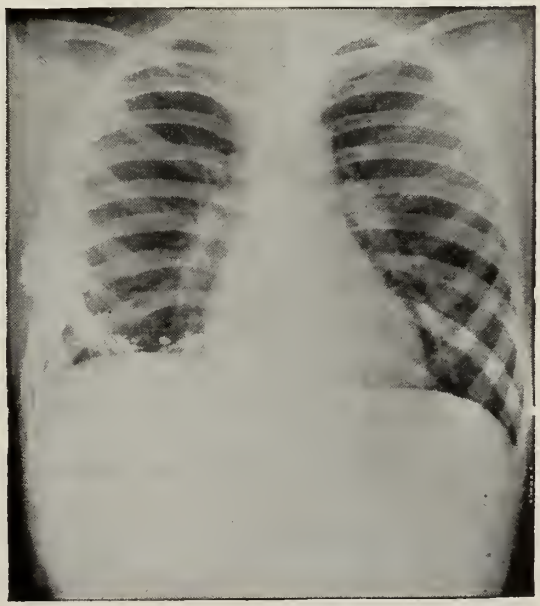
2. Right hydropneumothorax with lipiodol injections showing interlobar empyema.

Size of cavity, type of infection, and number of organisms determine the amount of penicillin to be administered in empyema. Usually 50,000 or 100,000 units in normal physiologic saline solution are injected once or twice daily directly into the empyema cavity after aspiration of pus or fluid. (Keefer, C. S., et al.: New Dosage Forms of Penicillin, J.A.M.A. 128:1161 [Aug. 18] 1945.) Treatment is by instillation, rather than irrigation, because penicillin requires at least 6 to 8 hours of contact for maximum effect.

Bristol Penicillin, because of its freedom from toxicity and pyrogens, as well as absolute sterility and standard potency assures the desired pharmacologic action.

The rapidly developing new clinical uses of this potent antibiotic are abstracted in issues of the BRISTOL PENICILLIN DIGEST. If not receiving *your copies* regularly, write.

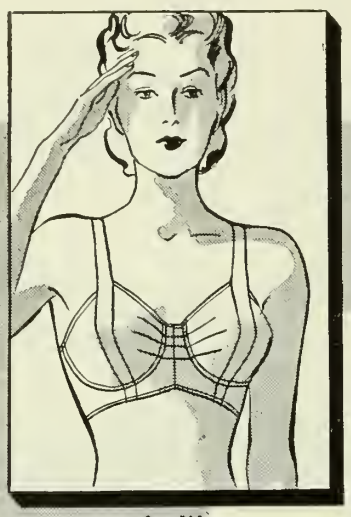
3. After injecting Penicillin in saline into empyema cavity daily for five days.



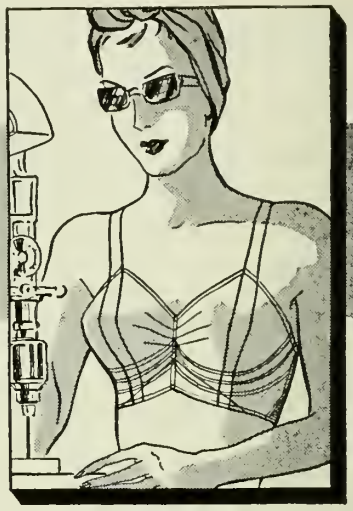
BRISTOL LABORATORIES INCORPORATED

Formerly CHEPLIN LABORATORIES INC.

SYRACUSE 1, N. Y.


Service Woman


Nursing Mother


War Worker

CORRECTIVE HYGIENIC BREAST SUPPORT DESIGNED TO MEET THE SPECIFIC NEED OF THE INDIVIDUAL WOMAN

Lov-é Brassieres

IN MORE THAN 500 BUST-CUP-TORSO SIZE VARIATIONS

'Proper physiological breast support for women in wartime is a subject that deserves the physician's thoughtful consideration.

That such consideration is being given this medical problem is attested by the fact that today, more Lov-é Corrective Brassieres are being fitted in accordance with physicians' prescriptions than at any time during the past twelve years.

Lov-é's highly specialized line of therapeutic breast supports enables the physician to prescribe remedial support for the individual patient with the complete assurance that the correct model indicated will be fitted from the more than 500 bust-cup-torso size variations available. Special corrective models have been designed for specific breast conditions, such as, ptotic, atrophic, hypertrophic, prenatal, postnatal, amputation, and post-operative. Also available: sleeping brassieres, hospital binders, artificial breasts, anatomically designed muscle pads, and maternity garter supports.

LOV-É PRODUCTS ARE EXPERTLY FITTED IN EXACT ACCORDANCE WITH THE PHYSICIAN'S PRESCRIPTION BY FACTORY-TRAINED LOV-É BRASSIERE TECHNICIANS

WAR BONDS FOR VICTORY!

LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS

Leadership

is a job, not a reward

In the field of Professional Protection The Medical Protective Company has maintained leadership since 1899.

Our service in 60,000 claims and suits attests the worthiness of this Leadership and the obvious advantages which our exclusive application to this one field brings to our policyholders.

We Lead Because We Specialize

The

Medical Protective Company

of

Fort Wayne, Indiana



Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)



Schieffelin BENZESTROL Tablets:
Potencies of 0.5, 1.0, 2.0 and 5.0 mg.
Bottles of 50, 100 and 1000.

Schieffelin BENZESTROL Solution:
Potency of 5.0 mg. per cc. in 10 cc.
Rubber Capped Multiple Dose Vials

Schieffelin BENZESTROL Vaginal Tablets:
Potency of 0.5 mg. Bottles of 100

Pertinent Facts

● Exerts a full estrogenic effect . . . Very well tolerated . . . Highly effective either orally or parenterally . . . Costs just a fraction of the "natural" estrogens.

● This synthetic estrogen is indicated in menopause disorders, in suppressing lactation, senile vaginitis, infantile gonorrheal vaginitis, and hypo-ovarian conditions in which there is an estrogen deficiency.

Literature and sample on request

Schieffelin & Co. 20 COOPER SQUARE • NEW YORK 3, N. Y.
Pharmaceutical and Research Laboratories



THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. Brinson, M.D.
Medical Director

•

Walter R. Wallace
Business Manager

The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.



No food (except breast milk) is more highly regarded than Similac for feeding the very young, small twins, prematures, or infants who have suffered a digestive upset. Similac is satisfactory in these special cases simply because it *resembles breast milk so closely,* and normal babies thrive on it for the same reason. This similarity to breast milk is definitely desirable — *from birth until weaning.*

A powdered modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butterfat is removed and to which has been added lactose, olive oil, coconut oil, corn oil, and fish liver oil concentrate.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

One level tablespoon of Similac powder added to *two* ounces of water makes *two* fluid ounces of Similac. This is the normal mixture and the caloric value is approximately 20 calories per fluid ounce.

SIMILAC } SIMILAR TO BREAST MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS, OHIO

Pure.. Wholesome.. Refreshing

Safeguarded constantly by scientific tests, Coca-Cola is famous for its purity and wholesomeness. It's famous, too, for the thrill of its taste and for the happy after-sense of complete refreshment it always brings. Get a Coca-Cola, and get the feel of refreshment.



Drink Coca-Cola Delicious and Refreshing

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.



WHEN *Living Itself* PROVES DIFFICULT

Stamina and strength, essential to a joyous, optimistic outlook, are vitally linked to the nutritional status, and will quickly wane if undernutrition is allowed to develop. Zestful living and boundless energy are hardly compatible with nutritional deficiencies.

For the below-par patient whose inadequate nutritional intake is the responsible factor, Ovaltine as a dietary supplement can make a real contribution toward assuring nutritional balance. A good source of high-quality protein, readily utilized carbohydrate, well-emulsified fat, and essential vitamins and minerals, Ovaltine can prove a significant factor in restoring the desired state of optimal nutrition. Three glassfuls daily, made with milk as directed, provide appreciable amounts of essential nutrients as indicated by the table. The low curd tension of Ovaltine assures rapid gastric emptying, hence the appetite for regular meals is not impaired. Ovaltine is enjoyed as a beverage and between meals.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



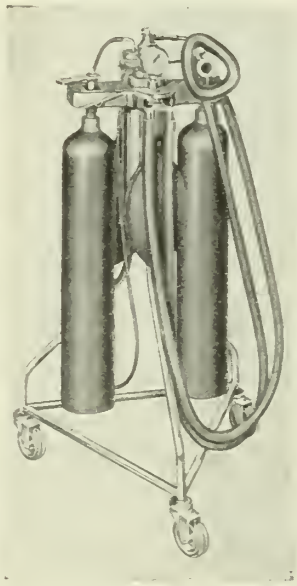
Ovaltine

Three daily servings of Ovaltine, each made of ½ oz. of Ovaltine and 8 oz. of whole milk,* provide:

CALORIES	669	VITAMIN A	3000 I.U.
PROTEIN	32.1 Gm.	VITAMIN B_1	.16 mg.
FAT	31.5 Gm.	RIBOFLAVIN	.50 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.75 mg.

*Based on average reported values for milk.

On display at the Annual Session in March will be



The EMERSON RESUSCITATOR

for all temporary asphyxia in obstetrics, surgery and emergency.

The Emerson Hot Pack Apparatus

for treatment of polio, arthritis, neuralgia, causalgia and other conditions requiring hot packs or fomentations.

For long-term respiratory failure, ask us about the

EMERSON RESPIRATOR

For further information or a demonstration write,

OTIS V. BENNETT

Midwest Representative

630 Pearl Ave. Kirkwood 22, Missouri

J. H. EMERSON COMPANY — Cambridge, Massachusetts



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address

Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.



Most DEPENDABLE Method

The combined use of an occlusive diaphragm and vaginal jelly remains, in the published opinions of competent clinicians, the most dependable method of conception control.

Dickinson[1] has long held that the use of jellies alone cannot be relied upon for complete protection. It is noteworthy that in the series of patients studied by Eastman and Scott[2], an occlusive diaphragm was employed in conjunction with a spermicidal jelly for effective results. Warner[3], in a carefully controlled study of 500 patients, emphasized the value of a diaphragm.

In view of the preponderant clinical evidence in its favor, we suggest that physicians will afford their patients a high degree of protection by prescribing the diaphragm and jelly technique.

You assure quality when you specify a product bearing the "RAMSES"* trademark.

1. Dickinson, R. L.: Techniques of Conception Control. Baltimore, Williams and Wilkins Co., 1942.
2. Eastman, N. J., and Scott, A. B.: Human Fertility 9:33 (June) 1944.
3. Warner, M. P.: J. A. M. A. 115:279 (July 27) 1940.

gynecological division

JULIUS SCHMID, INC.

Quality First Since 1883

423 West 55 Street New York 19, N. Y.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

the norm and standard...



by which all infant antirachitic agents are measured...

. . . is cod liver oil, the natural vitamin D of which is unsurpassed as a means of prevention or treatment of rickets.

This *ne plus ultra* of antirachitics, together with vitamin A as provided by time-honored cod liver oil, is supplied in three stable convenient, palatable dosage forms by White's Cod Liver Oil Concentrate . . . at a cost-to-patient of *less than a penny a day* for prophylactic antirachitic infant dosage.

In *Liquid* form for drop dosage to infants; *Tablets* for growing children or adults; *Capsules* where larger dosage may be required. Council Accepted. Ethically promoted—not advertised to the laity.

White Laboratories, Inc., Pharmaceutical Manufacturers, Newark 7, N. J.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

White's COD LIVER OIL CONCENTRATE—LIQUID, TABLETS, CAPSULES

At Almost Half Its Usual Price!

Improved Kelly Surgical Pad

Never before has this improved Kelly Pad been available at this amazingly low price. Slashed to almost half its former price, it has the same easier-to-use features and top grade rubber material that have made it so much more efficient than the old model. The cloth-inserted maroon rubber construction adds years of wear and resistance to repeated rough treatment. Malleable metal stays located transversely from bottom to top of apron permit a variety of rolled shapes to fit into large or small receptacles for irrigation. Maintains any shape assumed. Pad is reversible; thoroughly sterilizable by boiling. There are no crevices to resist cleaning. Inflation bulb is furnished with each pad. Take advantage of this remarkable offer at once.

8R253A—Improved Cloth-inserted Maroon Kelly Surgical Pad, 24 by 44 inches, complete with inflation bulb, each.....**$3.95**



A. S. ALOE COMPANY
1831 Olive St. — St. Louis 3, Mo.



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.
Medical Director

225 Sheridan Road — Phone Winnetka 211

Effective Convenient Economical

THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

Complete literature will be furnished on request.



HYNSON, WESTCOTT & DUNNING, INC.
BALTIMORE, MARYLAND



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED AMERICAN MEDICAL ASSN.



TAKING NO CHANCES

Since safety in procaine anesthesia depends so greatly upon the purity and sterility of the solution, a sample of every manufactured lot of Abbott Procaine Hydrochloride Crystals for spinal anesthesia is *clinically tested* for *anesthetic efficiency under actual operating conditions.* This special test is just one of the many safeguards developed and perfected during our twenty-seven years of manufacturing experience. As a result, you have the assurance of a product of anesthetic dependability, high purity, and low toxicity . . . a solution that is isotonic, and stable. Abbott Procaine Crystals are available in sterile ampoules containing 50 mg., 100 mg., 120 mg., 150 mg. or 200 mg. ABBOTT LABORATORIES, North Chicago, Illinois.

ABBOTT PROCAINE CRYSTALS

for spinal anesthesia



FOR MEN AND WOMEN!

A WORTHWHILE CAREER IN

LABORATORY TECHNIQUE

THE GRADWOHL SCHOOL OF LABORATORY TECHNIQUE is an ethical school, manned by competent ethical physicians and technologists and enjoys a high rating among the medical profession. . . . Gradwohl graduates, recognized as expert technicians, are in great demand for desirable positions.

Course includes—Clinical Pathology, Hematology, Serology, Applied Bacteriology, Basal Metabolism, Blood Chemistry, Electrocardiography, Parasitology, Tissue Cutting and Staining and X-Ray Technique.

ENROLL NOW for priority. 12 months course; 6 months internship. New classes start every 3 months.

33rd Successful Year



GRADWOHL SCHOOL OF LABORATORY TECHNIQUE

Under the Personal Supervision of

R. B. H. Gradwohl, M. D., Sc. D., Director

3514 Lucas Av. St. Louis, Mo.

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death $25.00 weekly indemnity, accident and sickness	$ 8.00 quarterly
$10,000.00 accidental death $50.00 weekly indemnity, accident and sickness	$16.00 quarterly
$15,000.00 accidental death $75.00 weekly indemnity, accident and sickness	$24.00 quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Speciol System of Reduction— Individuolized to Potient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Registered by the Council on Medicol Educotion ond Hospitols of the A. M. A.



Styled for Individual Tastes

Neo-Synephrine for intranasal use is "styled" in three distinct forms too. All three provide the same real breathing comfort . . . prompt decongestion that endures for hours. Only the vehicles are different . . . isotonic saline, unflavored; Ringer's Solution, pleasantly aromatic; jelly in applicator tubes for convenience.

Neo-Synephrine

HYDROCHLORIDE

LAEVO-α-HYDROXY-β-METHYLAMINO-4-HYDROXY-ETHYLBENZENE HYDROCHLORIDE

For Nasal Decongestion

THERAPEUTIC APPRAISAL: Quick acting, long lasting . . . nasal decongestion without compensatory recongestion; relatively free from cardiac and central nervous system stimulation; consistently effective upon repeated use; no appreciable interference with ciliary activity; isotonic to avoid irritation.

INDICATED for symptomatic relief in common cold, sinusitis, and nasal manifestations of allergy.



ADMINISTRATION may be by dropper, spray or tampon, using the ¼% in saline or in Ringer's solution in most cases—the 1% in saline when a stronger solution is indicated. The ½% jelly in tubes is convenient for patients to carry.

SUPPLIED as ¼% and 1% in isotonic salt solution, and as ¼% in isotonic solution of three chlorides (Ringer's), bottles of 1 fl. oz.; ½% jelly in ⅜ oz. collapsible tubes with applicator.

Samples Upon Request

Frederick Stearns & Company

Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark Neo-Synephrine—Reg. U. S. Pat. Off.

FREE SAMPLE

DR. .....
ADDRESS .....
CITY .....
STATE .....

AR-EX SOAP

Superfatted with CHOLESTEROL

Contains No Lanolin

Prescribed by many dermatologists and allergists in sensitive, dry skin, and contact dermatitis. YOUR DRUGGIST HAS IT OR CAN GET IT FOR YOU.



AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

HAMILTON-SCHMIDT SURGICAL CO.

St. Louis, Missouri

Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE

CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES

Est. 1919

QUINCY X-RAY & RADIUM LABORATORIES

(owned and directed by a Physician-Radiologist)

W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

BUY VICTORY BONDS

PRESCRIBE OR DISPENSE
ZEMMER PHARMACEUTICALS

A complete line of laboratory controlled ethical pharmaceuticals. Mo. 3-46

Chemists to the Medical Profession for 44 years.

THE ZEMMER COMPANY • Oakland Station • Pittsburgh 13, Pa.



THE MARY E. POGUE SCHOOL

For Retarded or Exceptional Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

51 Geneva Road Wheaton, Illinois Phone Wheaton 66

Formulac



A NUTRITIONALLY ADEQUATE INFANT FOOD

FORMULAC is the trade-name for a new product—a reduced milk in liquid form—supplemented with sufficient vitamins and minerals to render it an adequate food for infants.

FORMULAC was developed by E. V. McCollum to fill a long-felt pediatric need for a milk containing sufficient vitamins and minerals to meet the nutritional requirements of a growing infant *without supplementary administration*. The McCollum method of incorporating vitamins into the milk itself eliminates the risk of maternal error or oversight.

FORMULAC, newly introduced on the market, is promoted ethically.

FORMULAC, supplemented by carbohydrates at your discretion, presents a flexible basis for formula preparation, readily adjustable to each individual child's needs.

FORMULAC has been tested clinically, and proved satisfactory in promoting infant growth and development. Priced within range of even low income groups, this inexpensive infant food is on sale at most drug and grocery stores.



Distributed by
KRAFT FOODS COMPANY

ACCEPTED AMERICAN MEDICAL ASSN Council on Foods and Nutrition

• For professional samples and further information about FORMULAC, mail a card to National Dairy Products Company, Inc., 230 Park Avenue, New York 17, N. Y.

NATIONAL DAIRY Sealtest PRODUCTS CORP.

NATIONAL DAIRY PRODUCTS COMPANY, INC., New York, N.Y.

MISCELLANEOUS ANNOUNCEMENTS

FOR SALE—Medical, surgical, obstetrical instruments. Also instrument bag. Address Box 137, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only

IMMEDIATE DELIVERY
McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps —Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service
Phone for Demonstration
EDMUND F. HANLEY—Distributor
1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky
Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.
MENTAL patients have every comfort that their home affords.
The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.
NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.
E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101


CAMP TRADE MARK
Surgical Supports
COMPREHENSIVE STOCK FOR MEN AND WOMEN
EXPERT FITTERS To Serve Your Patients
THE W. E. ISLE CO.
ENTIRE SECOND FLOOR
1121 GRAND AVENUE
KANSAS CITY, MISSOURI
VICTOR 2350

FAITH HOSPITAL
A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR
2800 N. Taylor St. Louis, Mo.
GOodfellow 6262

BUY VICTORY BONDS


HANGER
(Patented)
HIP CONTROL LEG
DURALUMIN AND WILLOW LIMBS
MECHANICAL ARMS
TRUSSES - CANES
CRUTCHES - INVALID CHAIRS
Illustrated Catalog On Request
J. E. HANGER, INC.
1912 Olive St.
Phone: Central 1088
St. Louis 3, Mo.



Bridge the "nutritional gap"

The nutritional benefits of milk need not be deprived the "milk-sensitive" patient, even though successful treatment demands complete elimination of the offending food from the diet.

Clinical evidence has established MULL-SOY as an effective hypoallergenic substitute for cow's milk. This concentrated, emulsified soy bean food—homogenized and sterilized—closely approximates cow's milk in protein, fat, carbohydrate and mineral content. It is palatable, well tolerated, easy to digest and easy to prepare. Infants (particularly) thrive on MULL-SOY, and take it readily.

Write for copies of "Tasty Recipes for Mull-Soy in Milk-Free Diets", for your milk-allergic patients.

BORDEN'S PRESCRIPTION PRODUCTS DIV., 350 MADISON AVE., NEW YORK 17, N. Y.

MULL-SOY

HYPOALLERGENIC SOY BEAN FOOD

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

MULL-SOY is a liquid emulsified food prepared from water, soy bean flour, soy bean oil, dextrose, sucrose, calcium phosphate, calcium carbonate, salt and soy bean lecithin, homogenized and sterilized. Available in 15½ fl. oz. cans at all drug stores.

Boston Medical Library
8 Fenway



The rooster's legs are straight.

The boy's are not.

The rooster got plenty of vitamin D.

Fortunately, extreme cases of rickets such as the one above illustrated are comparatively rare nowadays, due to the widespread prophylactic use of vitamin D recommended by the medical profession.

One of the surest and easiest means of routinely administering vitamin D (and vitamin A) to children is MEAD'S OLEUM PERCOMORPHUM WITH OTHER FISH-LIVER OILS AND VIOSTEROL. Supplied in 10-cc. and 50cc. bottles. Also supplied in bottles of 50 and 250 capsules. Council Accepted. All Mead Products Are Council Accepted. Mead Johnson & Company, Evansville 21, Indiana, U. S. A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 4

APRIL, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Prostatic Calculi

Blue Nails

The Barnard Free Skin and Cancer Hospital Report

Barnes Hospital Case Reports

BOSTON
APR 9 1946
MEDICAL LIBRARY

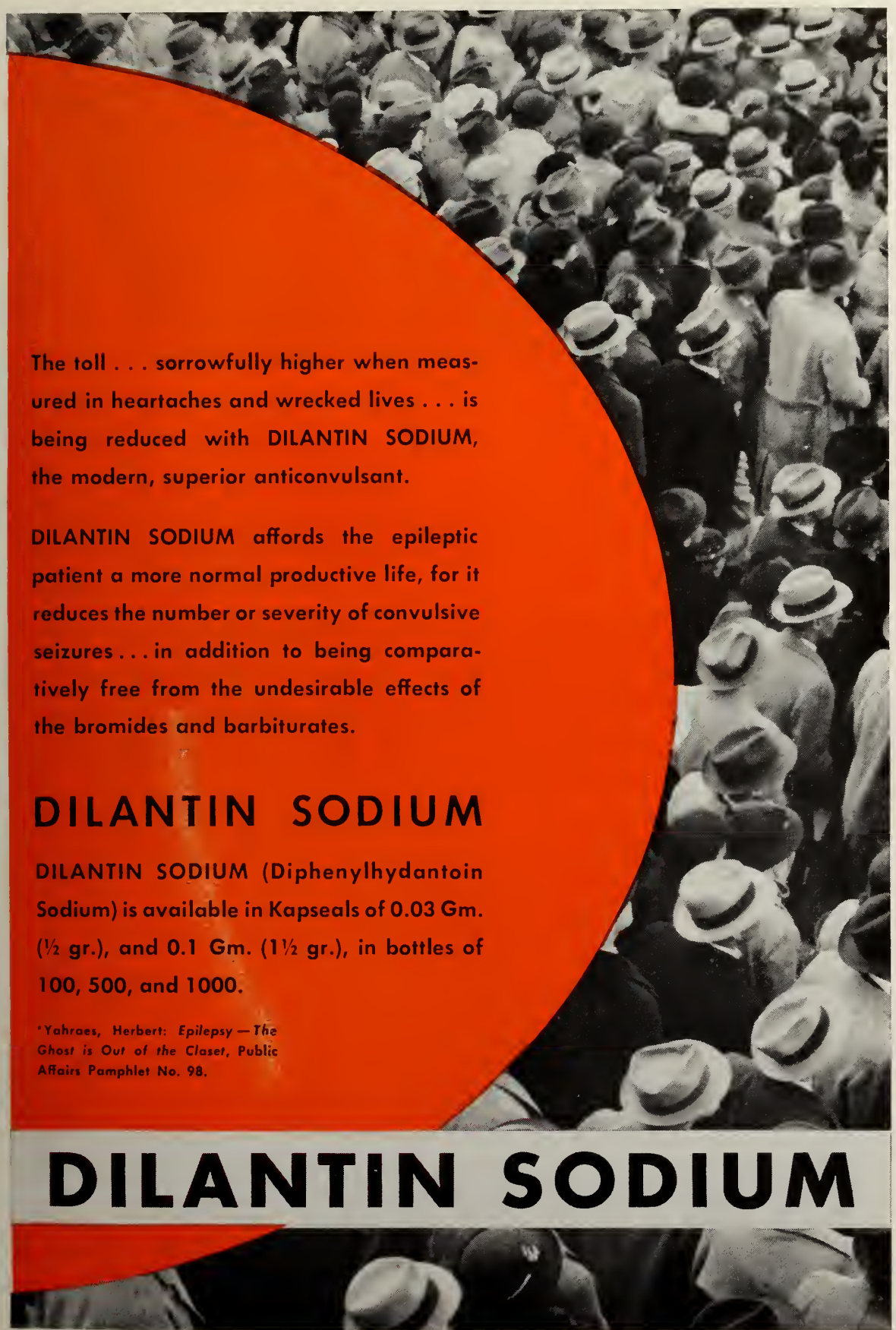
EDITORIALS

Postgraduate Medical Education

Medical Service Plans in Missouri

(Contents Index Page 233)


ONE
OUT OF EVERY 200 PERSONS
is an epileptic. Economic loss, measured in money, is tremendous — amounting to $60,000,000 annually.*
100 No. 362
KAPSEALS
DILANTIN SODIUM
DIPHENYL-HYDANTOIN SODIUM
0.1 Gram
(1½ grains)
PARKE DAVIS & CO.
DETROIT, MICH. U.S.A.
PARKE, DAVIS & COMPANY
DETROIT 32
MICHIGAN



The toll . . . sorrowfully higher when measured in heartaches and wrecked lives . . . is being reduced with DILANTIN SODIUM, the modern, superior anticonvulsant.

DILANTIN SODIUM affords the epileptic patient a more normal productive life, for it reduces the number or severity of convulsive seizures . . . in addition to being comparatively free from the undesirable effects of the bromides and barbiturates.

DILANTIN SODIUM

DILANTIN SODIUM (Diphenylhydantoin Sodium) is available in Kapseals of 0.03 Gm. (½ gr.), and 0.1 Gm. (1½ gr.), in bottles of 100, 500, and 1000.

*Yahraes, Herbert: *Epilepsy — The Ghost is Out of the Closet*, Public Affairs Pamphlet No. 98.

DILANTIN SODIUM



Since the age of two sets no ceiling on growth, and since vitamin D is constantly required for optimal absorption of bone-building minerals, continued supplementation well into childhood and adolescence beneficially influences bone structure and height.

Highly potent, convenient, natural Upjohn vitamin D preparations are available in different forms most suitable for infants, children, and adolescents.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS

CONTENTS

Prostatic Calculi. Neil S. Moore, M.D., and Earl A. Powell, M.D., St. Louis 245

Blue Nails. E. P. Monahan, M.D., Kansas City, Mo. 248

The Barnard Free Skin and Cancer Hospital. Research Report for 1945. E. V. Cowdry, St. Louis 248

Case Reports of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 252

Abstracts and Digests—

Tuberculosis Abstracts 258

Editorials—

Postgraduate Medical Education..... 260

Medical Service Plans in Missouri..... 260

News Notes 260

Physicians Returned From Military Service..... 261

Financial Statement for 1945..... 267

Miscellany—

Constructive Program of A.M.A. for Improvement of Medical Care..... 269

Dried Blood Plasma Available Through State Board of Health 271

Society Proceedings 274

Book Reviews 275

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1			W. G. Atwood	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1				
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	R. R. Cutler	Washington	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	D. L. Coffman	Fayette	J. W. Gardner	Glasgow
Jackson	7	Fred B. Kyger	Kansas City	Frank B. Leitz	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto		
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	H. S. Harris	Troy	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	W. Harry Barron	Frederickstown	John W. Hunt, Jr.	Leadwood
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



"It's a Boy!"

—and his life expectancy is brighter, and longer by 15 years —thanks to medicine's "men in white"

● Cold figures . . . with a warm, wonderful significance. Yes, the figures on increased life expectancy tell as much as a five-foot shelf of volumes on the amazing strides modern medical science has made in protecting and prolonging human life.

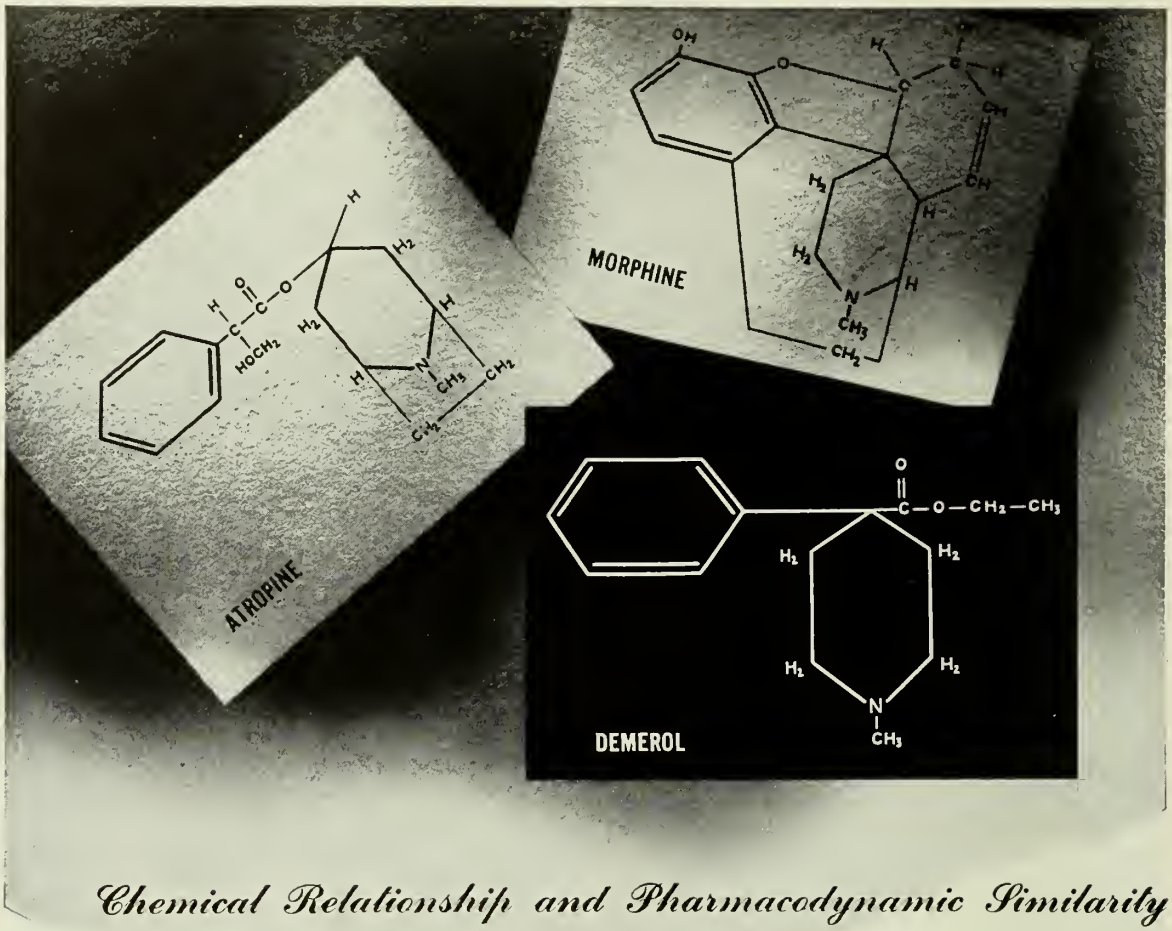


R. J. Reynolds Tobacco Co., Winston-Salem, N. C.

According to a recent independent nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette



Chemical Relationship and Pharmacodynamic Similarity

A NEW SYNTHETIC

ANALGESIC — Demerol's analgesic power ranks between morphine and codeine.

SPASMOLYTIC — Demerol's spasmolytic action is similar to that of atropine.

SEDATIVE — Demerol's sedative effect is mild, but usually sufficient to allay restlessness and induce sleep.

PRACTICALLY NO RISK OF RESPIRATORY DEPRESSION
WRITE FOR DETAILED LITERATURE

DEMEROL
Trademark Reg. U. S. Pat. Off. & Canada
HYDROCHLORIDE
Brand of MEPERIDINE HYDROCHLORIDE (Isonipecaine)

Average adult dose: 100 mg. orally or intramuscularly.

HOW SUPPLIED — For oral use: Tablets of 50 mg., bottles of 25 and 100. For intramuscular injection: Ampuls of 2 cc. (100 mg.), boxes of 6 and 25, and vials of 30 cc. (50 mg. per 1 cc.).

Subject to regulations of the Federal Bureau of Narcotics

ACCEPTED AMERICAN MEDICAL ASSN

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician • New York 13 N. Y. • Windsor, Ont.

From here . . . to here



CONTROL
. . . *ALL THE WAY*

FROM the initial culture to the end product, an extraordinarily comprehensive program of control characterizes the production of Penicillin Schenley.

At every single step, the most extreme care is exercised, to insure for Penicillin Schenley a maximum degree of purity...potency... freedom-from-pyrogens.

This system of control is your assurance that you can specify Penicillin Schenley with the greatest confidence.

SCHENLEY LABORATORIES, INC.
Executive Offices: 350 Fifth Avenue, N. Y. C.

Producers of

PENICILLIN SCHENLEY

Your Local Distributor for **PENICILLIN** SCHENLEY *is:*

ST. LOUIS
Charles A. Schmidt Instrument Co.
Storz Instrument Co.

SPRINGFIELD
Burt Krone Company



Saved...by its foundation!

A strong foundation saved the Cathedral of Cologne in ground-shaking bombing assaults of World War II . . . and a strong nutritional foundation laid down in infancy will likewise help to protect health and strength in years to follow, against health-destroying assaults of disease. • BIOLAC furnishes among other essential nutrients the valuable proteins of milk, an outstanding source of all the indispensable amino acids . . . the prerequisite building blocks of strong tissues. • BIOLAC is bacteriologically safe...convenient...economical...readily available.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE, NEW YORK 17, N. Y.



Biolac

The foundation is the thing

ACCEPTED AMERICAN MEDICAL ASSN Council on Foods and Nutrition

Biolac is a liquid modified milk, prepared from whole and skim milk with added lactose, and fortified with thiamine, concentrate of vitamins A and D from cod liver oil, and iron citrate; only ascorbic acid supplementation is necessary. Evaporated, homogenized and sterilized. Biolac is available in 13 fl. oz. tins at all drug stores.

Quickly prepared . . . easily calculated: 1 fl. oz. Biolac to 1½ fl. oz. water per lb. of body weight.

Individual
MOISTURE PROTECTION



Tablets Penicillin Calcium Squibb are individually and hermetically sealed in aluminum foil to protect against penicillin-destroying moisture. As a result, the physician can prescribe the precise number of tablets needed without fear of potency deterioration. Each tablet contains 0.5 gm. trisodium citrate to buffer destructive gastric juices.

Tablets Penicillin Calcium Squibb provide 20,000 units, making oral therapy feasible for many conditions which heretofore could be treated only by repeated parenteral injections.

Tablets Penicillin SQUIBB
CALCIUM

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

YOU CAN'T OVERRATE THE VALUE OF CONTROL



Everyone can see the need for control measures against *obvious* dangers. But dramatic and constant campaigning is necessary to win public support in the fight against the unseen menace of cancer. Interest must be awakened and education conducted to enlist the public co-operation requisite to success. This challenging work is the responsibility of the Field Army of the American Cancer Society.

To give appropriate significance to these efforts and to focus nation-wide attention on this vital problem, Congress has designated April, "Cancer Control Month." And again this Spring, as in each drive spearheading the next year's activities, the Field Army's straightforward appeal to all Americans is: "GIVE, to Conquer Cancer."

Once more, over 10,000 Rexall Drug Stores across the country unite in behalf of this cause. Urging Americans to heed the Society's plea, these stores contribute facilities for distribution of literature cautioning "Consult your doctor" at the first moment of cancer's "danger signals."

UNITED-REXALL DRUG CO.

Rexall DRUGS

PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

LOS ANGELES • BOSTON • ST. LOUIS • CHICAGO • ATLANTA • SAN FRANCISCO
PORTLAND • PITTSBURGH • FT. WORTH • NOTTINGHAM • TORONTO • SO. AFRICA

Cryptorchidism



Undescended testes are exposed to several hazards —atrophy, sterility, torsion and malignant degeneration. Even if these unfortunate complications do not eventuate, the very existence of cryptorchidism may be responsible for or contribute toward psychic disturbances in adolescence.

PRANTURON

Administration of PRANTURON, chorionic gonadotrophin, at an early age often causes the cryptorchid organ to assume its natural position and thereby promotes somatic and emotional readjustment.

PRANTURON is available in two strengths as a stable powder in multiple dose vials to permit flexibility in dosage, each vial containing 5,000 I.U. or 10,000 I.U. of dry, highly purified hormone of pregnancy urine. When diluted with the sterile diluent provided, solutions of 500 I.U. per cc. or 1,000 I.U. per cc. are obtained. Packaged in boxes of one vial.

Trade-Mark PRANTURON—Reg. U. S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD · N. J.

In Canada, Schering Corporation Limited, Montreal



THE CORE OF COMPETENCE

Knowledge and skill beyond mere technical competence, experience and judgment, and a sense of *individual responsibility* for unfailing performance, shared by the entire personnel, explain why for more than a quarter of a century U. S. Standard Products have merited the sustained confidence of the medical profession in day-by-day hours at the bedside, and in moments of crisis in the operating theatre.

Building soundly through the years—avoiding the untried and merely spectacular, U. S. Standard Products have developed into a comprehensive list of essentials in general practice and the specialties.

U. S. STANDARD PRODUCTS

- **BIOLOGICALS**
- **PHARMACEUTICALS**
- **ALLERGENIC EXTRACTS**
- **HORMONES**

U. S. STANDARD PRODUCTS CO.
WOODWORTH, WISCONSIN, U. S. A.

"What are the MAGIC WORDS?"

No magic words, no magic wand can improve a cigarette. *Something more tangible is needed.*

PHILIP MORRIS superiority is due to a different method of manufacture, which produces a cigarette *proved* definitely less irritating to the smoker's nose and throat.*

Perhaps you prefer to make your *own* test. Many doctors do. There is no better way to prove to your own satisfaction the superiority of PHILIP MORRIS.

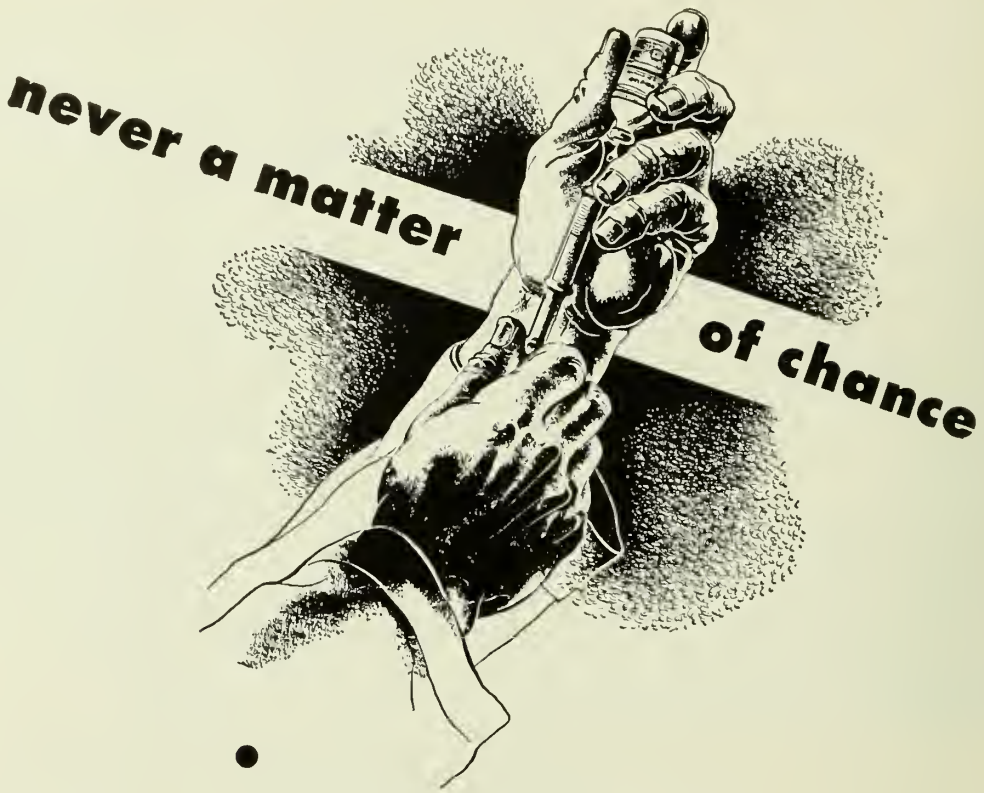
* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, N. Y.

TO PHYSICIANS WHO SMOKE A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.



From the selection of crude materials to the analysis of the finished solutions, the manufacture of Lilly Ampoules is under meticulous scientific control. Every detail which will insure the efficacy of the finished product, make it safe, keep it brilliantly clear, and contribute to its permanency is carefully observed. It is never a matter of chance. When ampoule medication is indicated, a Lilly specification guarantees stability, accuracy, and uniformity.

Lilly

ELI LILLY AND COMPANY

INDIANAPOLIS 6, INDIANA, U.S.A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 APRIL, 1946 NUMBER 4

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

PROSTATIC CALCULI

NEIL S. MOORE, M.D.
AND
EARL A. POWELL, M.D.
ST. LOUIS

Since for the last fifteen years it has become a routine procedure for one of us (Moore), and both of us for the last three years, to take plain roentgen rays of the kidneys, ureters and bladder in virtually all cases presenting themselves with symptoms referable to the prostate, we have discovered many instances of prostatic calculi which otherwise would have been overlooked. Inasmuch as the treatment of prostatism, regardless of the symptoms, varies when concretions are present in the gland, we feel that our observations are of sufficient interest to the profession, especially the general practitioner, to warrant a brief report and summary of a few case histories. In reviewing the literature, however, we found that the disease is neither new, nor is it as rare as one might suppose when properly investigated.

The disease was first recognized as early as 1687 by Donatus. It was first accurately described by Pohl in 1737, and as late as 1918 Kretschmer exhaustively reviewed the literature and found a total of only 173 reported cases, some of which were his own.

In routine autopsies at Bellvue Hospital, New York, on male patients dying from all causes, Lowsley found one fifth, or 20 per cent, had prostatic calculi. Nygaard and Weber state that in routine autopsies on 300 male patients dying from all causes one fourth, or 25 per cent, had prostatic calculi. It is seen, then, that prostatic calculi are more common than generally believed.

Etiologically, prostatic calculi are divided into two main groups: endogenous or true prostatic calculi and exogenous or false prostatic calculi. Clinically, at least, the endogenous type may be divided into two separate groups, one comprising the finding at complete enucleation of the prostate of calculi which apparently have been compressed between the true gland structure and the tumefaction. This is only of passing interest. The second type, and the one which stimulated this study, consists of clusters of calculi in pockets of an otherwise nonhypertrophic gland, usually associated with a urethral discharge.

The etiology of endogenous calculi is not known. However, the theory having the greatest following is that the calculi begin with a nucleus of corpora amylacea, blood clot, clump of bacteria, epithelial debris or pus within the prostate gland. Upon this nucleus are deposited different salts of phosphates and carbonates.

Exogenous prostatic calculi are formed outside the prostate gland, possibly as far distant as the kidney, and come to rest in the prostatic urethra. It is only mentioned in passing.

Prostatic calculi are found in almost all age groups ranging from the young adult in his early twenties to the old male dying of infirmities of age. The majority of cases, however, are found in the fourth, fifth and sixth decades of life.

Coexistent with almost any prostatic disease, prostatic calculi are found by means of routine roentgenograms occurring alone, often with no clinical evidence of prostatic disease. It has been thought quite generally that prostatic calculi occurred with benign prostatic hyperplasia and only rarely with prostatic carcinoma. In 1944 the Mayo Clinic reviewed all the cases of benign hyperplasia and carcinoma operated upon by them over a period of years, which were complicated by the presence of calculi. It was found that 7 per cent of the benign hyperplasias and 6.3 per cent of the carcinomas were complicated by calculi. Their review covered a total of 4,822 cases. Thus a quite common supposition was found to be erroneous.

Yet it has been our experience that calculi occurring in a carcinomatous prostate is purely coincidental and not necessarily an etiologic factor. The differential diagnosis, however, between the two diseases requires considerable skill.

Endogenous prostatic calculi vary in size from a mustard seed to 2 cm. in diameter, and in number from a few to many hundreds. Sooner or later the presence of the calculi will set up an inflammatory process in the gland. Microscopically, the gland shows distended acini, the mucosal linings of which are infiltrated with lymphocytes and polymorphonuclear cells, depending upon the degree of infection present.

As has been stated, some cases of prostatic calculi are symptomless and the calculi are found only by routine roentgenography. However, the symptoms may vary from mild to severe and take the form of some local irritation, urinary disturbance or vague sexual disturbance. The commonest symptoms are frequency, dysuria and sometimes a urethral discharge which upon examination reveals only pus cells. The extreme findings are abscess formation with chills and fever, pain in the perineum or rectum.

The diagnosis of prostatic calculi is at times suspected on rectal examination of the gland or the passage of instruments into the posterior urethra, causing the patient to complain of severe pain. The positive diagnosis of prostatic calculi, however, is dependent upon roentgenographic examination of the area. It is this point that we wish to stress strongly. It is our practice, and we believe should be the practice of all physicians, to take routine roentgenograms as part of any urologic examination. The late Hugh Young said, "In only a small portion of our cases was the presence of a calculus made out on rectal examination. In most cases the positive diagnosis was made by the roentgenray."

The ordinary roentgenogram taken of the abdomen with the tube over the midpart of the abdomen will throw the shadow of the prostate beneath the symphysis pubis, thus obscuring at times any calculi present. However, if the patient is placed upon the table with the legs in line with the body, a pillow placed under the dorsal vertebra and the rays directed down the pelvic strait, the prostatic shadow will fall within the pelvic shadow and the prostatic calculi can be recognized easily.

The treatment of prostatic calculi depends upon the severity of the symptoms and the age of the patient. If the symptoms are negligible or mild the treatment is limited to occasional irrigations and perineal heat.

We do not believe a prostate filled with stones should be massaged. Massaging merely grinds the calcareous deposits around in the gland and further irritates or macerates the gland. Not infrequently have patients come to us by reference, giving a history of having been to many doctors previously, most of whom massaged the gland numerous times with either no improvement or an increase in severity of the symptoms.

If the symptoms are severe and obstructive signs are present, the gland may be removed completely. If the individual is young and no signs of obstruction are present, a suprapubic or perineal prostatolithotomy may be done.



Fig. 1.

Transurethral resection is a useful procedure in cases in which the stones may be pocketed in the median or lateral lobes near the urethral mucosa. It has not afforded us satisfactory results in the extreme cases. The procedure, however, should always be given due consideration.

REPORT OF CASES

Case 1. (Figure 1.) Patient, aged 47, gave a history of painless pyuria which was found upon an insurance examination. The prostate had been massaged without relief. Investigation revealed prostatic calculi. The patient was advised to discontinue treatment of all kinds. His condition

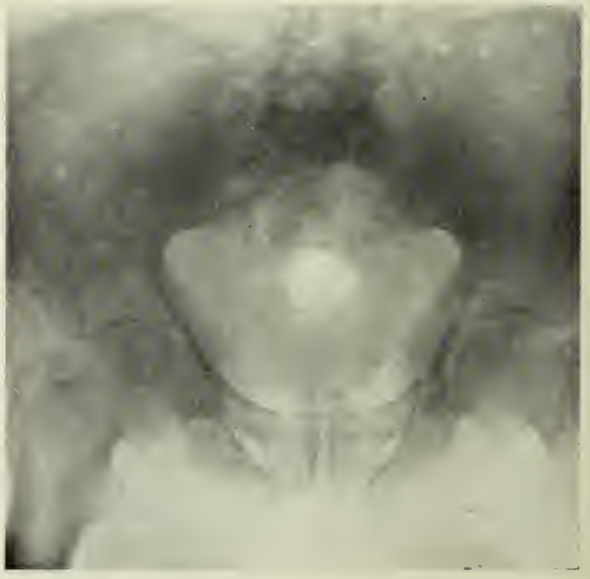


Fig. 2.



Fig. 3.

has improved and his insurance rating is good.

Case 2. (Figure 2.) Patient, aged 53, was seen first some few years ago by one of us in consultation. There was acute inflammation of both epididymi. He gave a history of recurrent pyuria with considerable bladder and urethral irritation. Gram-negative bacilli were found in the urine when cloudy. A flat roentgen ray revealed the diagnosis. Present treatment is an occasional catheter irrigation.

Case 3. (Figure 3.) Patient, aged 55, suffered from frequent and painful urination which developed after a blow sustained by falling on the ice. He passed no blood. When first seen, the urine was clear and free from pus and bacteria. Roentgen ray revealed multiple stones within the prostate gland. Later, the urine became cloudy with pus and gram-negative bacilli, evidently colon bacilli, and has remained so. His general health is fair but he continues to have attacks of urinary frequency with pyuria at intervals for the last six years. He has shown improvement from large doses of vitamin A. In all likelihood the gland will be resected.

Case 4. (Figure 4.) Patient, aged 52, was first seen in 1938, giving a history of what he termed as prostate trouble for some time. He was up two or three times at night to urinate and had burning and soreness at the neck of the bladder. He had seen several physicians, most of whom had given prostatic massages without relief. Examination revealed thickening of the median and lateral lobes with multiple shadows in the right lateral lobe and median lobe. There were trabeculations of the bladder and pus and gram-negative bacilli in the right kidney pelvis. Blood findings were normal. A transurethral resection done in September 1938, at which time all lobes were resected and several stones passed away, has afforded satisfactory relief. The patient has not been seen since 1940.

Case 5. (Figure 5.) Patient, aged 56, was first seen seventeen years ago at which time the diagnosis of posterior urethral stricture was made although roentgen rays at that time showed one small shadow in the neighborhood of the prostate. Symptomatic relief was afforded at that time by the passage of sounds. He came to us again in 1945 with complete retention, giving a history of having had two separate transurethral resections elsewhere since we had last seen him. Investigation revealed multiple shadows in the neighborhood of the prostate. A suprapubic operation was carried out at which time, with a finger in the rectum, many pockets of calculi were opened and removed. The suprapublic wound healed in due time. The relief of symptoms has been so satisfactory that we have been unable to see the patient for further examination.

Case 6. (Figure 6.) Patient, aged 54, was seen first in 1941. He gave a history of frequent urination with burning which he attributed to glycosuria. The referring physician had suspected carcinoma of the prostate because of the dense infiltration. Our urologic examination disclosed stone shadows as revealed in figure 6. Through suprapubic approach with a finger in the rectum, the entire calculous formation was removed. In a recent communication with this patient, he stated there is no urinary complaint.

COMMENT

Since prostatic calculi are present in from 20 to 25 per cent of all male individuals, and since the positive diagnosis is simple and quick, we believe this condition has been and is still too often overlooked. Roentgenograms should be a routine part of all urologic examinations.



Fig. 4.



Fig. 5.

SUMMARY

1. Prostatic calculi is a common occurrence; from 20 per cent to 25 per cent.

2. Simple and positive diagnosis can be made by routine roentgenography.

3. Treatment is dependent upon age of patient and severity of symptoms, varying from occasional local irrigation and heat to surgical intervention.

729 Frisco Building.

BIBLIOGRAPHY

1. Nygaard, K. K., and Weber, E. W.: New York State J. Med. 44:2720-2722 (Dec. 16) 1944.
2. Cristal, D. S., and Emmett, J. L.: Proc. Staff Meet., Mayo Clin. 19:265-267 (May 31) 1944.
3. Huggins, C., and Bear, R. S.: J. Urol. 51:37-47 (January) 1944.
4. Ritter, J. S., and Shifrin, L. A.: Urol. & Cutan. Rev. 47:76-78 (February) 1943.
5. Lowsley & Kirwin: Clinical Urology, ed. 2, 1944, vol. 1, pp. 866-871.
6. Cabot: Modern Urology, ed. 3, 1936, vol. 1, pp. 923-937.



Fig. 6.

BLUE NAILS

E. P. MONAHAN, M.D.
KANSAS CITY, MO.

AN ATABRINE PHENOMENON

REPORT OF A CASE

J. B., a 31 year old male, was seen at the William Volker Clinic, Kansas City, Missouri, in October 1945. His chief complaint was a bluish discoloration of all of his nails and of the hard palate. He was discharged from the army in October 1945. There was no history of cancer, tuberculosis or diabetes in his family. No injuries were sustained before or while in the army. However, he contracted malaria during his second year of service and was started on atabrine. He states that there had been no change in the skin aside from the one mentioned; he had never been sick except for having experienced slight nausea and nervousness. Approximately eighteen months ago he noticed that his "nails and the roof of the mouth were turning blue," which he described as "the color of a concord grape."

In checking the literature, we found the U. S. A. Medical Bulletin, Vol. IV, October 1945, reported ten cases similar to the one described. It is the opinion of the authors (Hammond, Scheirer and Kay) that these are the first cases described thus far. Some additional symptoms were described, e.g., icterus, pigmentation of the conjunctivae, ears, nose, epiglottis and tracheal rings. None of these associated features was seen in this case. The blood work on this case revealed no dyscrasia. No malarial parasites were found. Urinalysis was normal. The patient took atabrine for many months and was still taking it after his discharge.

The authors quoted have had sufficient time for prolonged observation and state that the phenomenon disappears in from five to nine months after discontinuance of atabrine, leaving no sequellae. The mechanism of this phenomenon is not understood. Subsequent reports will doubtless increase the number of cases and add valuable data.

814 Argyle Bldg.

THE BARNARD FREE SKIN AND CANCER HOSPITAL

RESEARCH REPORT FOR 1945

E. V. COWDRY
ST. LOUIS

BARNARD LECTURE

As usual the high point in the year was the annual Barnard Hospital Lecture. This was given by Dr. C. P. Rhoads, Medical Director of the Memorial Hospital, New York. His subject was "Nutritional Aspects of the Cancer Problem." He brought to a large and enthusiastic audience a well balanced and considered statement of evidence from all sources including the detailed investigations in his own laboratory bearing on this question. Experi-

ments on animals indicate that marked restriction of caloric intake reduces tendency to cancer development and that high fat diets increase it. Dr. Rhoads' address will be published soon in the *Journal of the American Medical Association.*

UNITY OF RESEARCH

The impulse to research is the same wherever it is carried on. It is a discontent with things as they are, a refusal to continue doing the same old thing in the same old way, or to be content with present knowledge and an urge to discover new and better methods or to expand knowledge. The qualities needed for successful research whether in the laboratories or in the clinic are identical, namely, imagination, accuracy in observation and judgment in reaching conclusions, together with hard work. There is really no difference either in lure of investigation or in the mental equipment required between so-called laboratory and clinical research. These self evident points are made because in Barnard Hospital the major cancer research project, initiated in animals and based chiefly on them, extends into the study of human cancer and, conversely, other investigations, started wholly in the clinic, expand into the laboratory where procedures not possible on patients can be carried out.

MAJOR CANCER RESEARCH PROJECT IN LABORATORY

The year 1945 was the eighth year of operation of this major project. Its purpose was, and is, to ascertain how cancer originates in previously normal tissue.

Epidermis was selected as the tissue because it is made up of cells of a single kind conveniently arranged in layers of increasing differentiation, and because of its avascularity, which greatly simplifies chemical analysis. Mice of closely inbred strains were employed so that individual variation would be reduced to a minimum. Methylcholanthrene was chosen as the carcinogen because it is obtainable in a chemically pure state, and is related chemically to some compounds naturally occurring in the body. Moreover this substance is under detailed investigation from several angles in the National Cancer Institute and the better it becomes known the more intelligible will be the work on its action.

The biologic equation that we are trying to analyze is therefore: epidermis of similar mice + methylcholanthrene in benzene → cancer quickly and fairly uniformly. This analysis is limited to properties of epidermis that can be determined quantitatively. Our purpose is integrative to discover whether the properties increase, decrease or remain constant; when there is a change, the direction and rate of change and whether it is paralleled by alterations in other properties. It is, of course, not possible to investigate many properties in one and the same carcinogenic series; but, by making all the series as similar as possible through standardization of experimental conditions, the results can in a sense be superposed.

Because each property studied is to some extent a problem in itself, though an integral part of the whole, the papers by various members of the team are units. This is helpful for it promotes individual initiative, gives credit where credit is due and makes it unnecessary to head the contributions by a long series of names.

Expansion in a project thus organized is simple. Progress meetings are held every two weeks with the dual object of bringing to bear the experience of all the workers on the advancement of each unit investigation and of initiating the study of other properties of epidermis to the greatest advantage of the whole project. Before a new line of inquiry is commenced all must be satisfied that it is important, that the suggested technic will yield quantitative data (as determined by preliminary experiments), that a qualified person can be found to do the work, and that adequate additional financial support can be obtained in order not to jeopardize studies already under way. This orderly procedure prevents spread at the expense of thoroughness.

It is interesting to recall those who have advanced this project by publishing either individually or with others the results they obtained. It may be, to keep them informed of developments and to profit by their suggestions. Among these is the policy of Barnard Hospital, wherever they are: J. P. Baumberger, Professor of Physiology, Stanford University; J. J. Biesele, Department of Experimental Evolution, Carnegie Institute, Cold Spring Harbor, N. Y.; M. McA. Biesele (Mrs. J. J. Biesele); H. I. Firminger, Lieutenant, Medical Corps, U. S. A.; H. C. Reller, Instructor of Dermatology, Washington University School of Medicine; F. X. Paletta, Major, Medical Corps, U. S. Army; Alice Schiff, Pediatrician, Los Angeles; H. C. Thompson, Research Fellow in Surgeon General's Museum, Washington, D. C.; R. E. Stowell, Assistant Professor of Pathology, Washington University; C. E. Lischer, Captain, Medical Corps, Valley Forge, Phoenixville, Pennsylvania; P. J. Max, Lieutenant Colonel, Medical Corps, U. S. Army; V. M. Albers, Kettering Laboratory of Chlorophyll and Photosynthesis, Antioch College, Yellow Springs; F. Urban, Research Hospital, University of Illinois College of Medicine, 1819 W. Polk Street, Chicago 12, Illinois; B. Milder, Ophthalmologist; H. C. Franklin, U. S. Marine Hospital, Staten Island, N. Y.; Dorothy Ziegler Kraemer, Assistant in Anatomy, Columbia University; and K. Bardwell, Stanford University.

PUBLICATIONS IN THE YEAR UNDER REVIEW RECORD

1. Development of a method for the microdetermination of copper with the polarograph (Carruthers).

2. The discovery that copper and zinc are in hyperplastic epidermis respectively, 45 per cent and 30 per cent less than in normal epidermis and

in the resulting transplantable cancers 83 per cent and 68 per cent less than in normal epidermis not treated with the carcinogen. There is, therefore, a decrease in both as cancer develops in mouse epidermis (Carruthers and Suntzeff).

3. The observation that the mg. cholesterol/mg. protein nitrogen ratio decreases from 0.270 in normal untreated epidermis to 0.161 in hyperplastic epidermis early in response to the carcinogen and that it remains decreased to 60 days (Wicks and Suntzeff).

4. The sensitization of skin by carcinogenically inactive methylcholanthrene in lanolin to subsequent applications of the same carcinogen in benzene (Simpson and Cramer).

5. The fact that when thus sensitized the amounts of calcium and iron in the epidermis are not decreased (Simpson, Carruthers and Cramer).

6. The subsequent detection in skin treated with methylcholanthrene of blue and red fluorescences, a matter of considerable importance in tracing the fate of the carcinogen originally applied (Simpson and Cramer).

7. Data bearing on the decrease in calcium in young and old mice of strains more and less susceptible to the carcinogen always used in the major project (Suntzeff, Carruthers and Cowdry).

8. Elaboration of a satisfactory technic for the separation of nuclei from epidermal cells during carcinogenesis and their collection *en masse* for quantitative determinations (Ziegler).

In addition, quantitative measurements in reacting epidermis of members of the B complex of vitamins (Tatum, Ritchey, Cowdry and Wicks) of radioactive phosphorus (Costello, Carruthers and Simoes) both, in early stages of carcinogenesis, will soon be published.

EXPANSION OF MAJOR PROJECT INTO THE CLINIC

Employing the technics devised for measuring the properties of epidermis as cancer develops in mice, a beginning has been made in parallel studies on patients.

For the work on mice, Stowell devised apparatus which permits the photometric histochemical determination of thymonucleic acid. This he and Cooper have used to determine the relative amounts of thymonucleic acid in normal human epidermis, in human hyperplastic epidermis and in human epidermoid carcinomas. The results in man were similar to those previously secured by him in mice: "Hyperplastic epidermis, in which the cells were large, contained less thymonucleic acid per unit volume of tissue than the normal epidermis."

The complete separation of epidermis from dermis and its microscopic examination in whole mounts proved to be of great service in the study of cancer development in mice. Cooper and Cowdry are employing the same technic in the study of regional differences in human epidermis in relation to speed of aging and cancer frequency. Cooper has also used the method to advantage in the investigation of multiple basal cell carcinomata.

Chemical analyses of normal and hyperplastic precancerous mouse epidermises, separated from dermis by the heat method, gave quantitative data for integration in epidermal carcinogenesis of mice. Using the same methods, Carruthers and Suntzeff have made the first analyses of sodium, magnesium, calcium and other minerals in normal human epidermis. They find that the composition of normal human epidermis differs from that of normal mouse epidermis and rather strikingly resembles that of mouse epidermis made hyperplastic by the carcinogen.

The technic, which Ziegler developed for the separation and collection *en masse* of nuclei from epidermis in various early stages of experimental carcinogenesis in mice, has proved in her hands wholly satisfactory for the collection of nuclei from normal human epidermis so that researches on human epidermis, both normal and diseased, can be centered on the nuclei after getting rid of cytoplasm, cell walls and everything else.

Thus, work on the major project of epidermal carcinogenesis in mice evidently leads into epidermal carcinogenesis in man almost all along the line. The mice are the proving ground for the development of technics and for their utilization in the study of the sequence of events in cancer production standardized by uniformity in application of carcinogen, in age of animals and similarity in their hereditary endowments. That is, the conditions under which any particular observation is made are reproduceable in other mice with considerable fidelity. In the case of cancer patients the physician encounters a state of affairs in each which is individual and different from the rest, of which he does not see the beginning which is not reproduceable and on which experimentation is strictly limited.

RESEARCH WHOLLY IN THE CLINIC

It goes without saying that efforts must be made unremittingly to improve methods of prevention, diagnosis and treatment. Jorstad's contribution to the management of the lymph nodes of the neck in neoplastic disease is a careful and valuable analysis of methods of diagnosis, surgical procedure and operative mortality. It does not involve any laboratory work outside of the clinic except the routine examination of biopsy specimens collected in the clinic.

Morris Moore's comparison of mycotic granulomata and cutaneous tuberculosis is helpful in reaching an accurate diagnosis. It is based upon a detailed analysis of observations in the literature and of results of the microscopic examination of specimens collected in the clinic; but, like Jorstad's work, it does not involve animal experimentation.

The testing of hypersensitivity to penicillin and certain other drugs in many volunteers by Weiss and Reller is another example of important studies

carried on solely at the human level. It affords a basis for the prevention of consequences from their use that may be disastrous.

Every detailed study of a patient, or a group of patients, above and beyond the usual routine is reseach. Sometimes this involves a careful strutiny of many papers published by others, a search of Barnard Hospital records of similar cases and their course extending back 40 years or more and much hard work.

The financing of such strictly clinical research is seldom difficult. Usually there is no expense at all involved. But to find the time and the energy during the war has been difficult. Yet it was when the war was at full blast in 1944 that the hard worked clinicians joined with the equally hard pressed laboratory workers in producing under the inspiring leadership of Dr. Seelig an entire volume of *Surgical Clinics of North America* devoted to researches on cancer in Barnard Hospital.

EXPANSION OF CLINICAL RESEARCH INTO THE LABORATORY

Recognition of the fact that the universal use of talcum powder to dust surgeons' gloves is a definite hazard for the patients, led Seelig and Verda to make many experiments on animals designed to find a harmless substitute for talcum. This investigation led first to potassium bitartrate as a substitute and later to a form of starch which does not gelatinize on heat sterilization. It is hoped that the latter will soon be placed on the market so that the talcum powder hazard definitely will be removed in all operating rooms the world over, a great achievement, indeed.

Another suspected hazard, possibly of considerable magnitude, relates to certain materials produced in the manufacture of high octane gasoline. The oil companies, wishing to spare no pains in the protection of their workers, are much interested in this problem. Two of them applied for and obtained in 1945 the cooperation of Barnard Hospital in the laboratory testing of certain samples.

It may be mentioned, in passing, that in earlier years also, the scene of research activity has shifted from the clinic to the laboratory at Barnard Hospital on many occasions of which three will serve as examples:

First, when the dermatologists suspected that some cutaneous diseases of unknown etiology might be caused by viruses, Dr. F. S. Markhan, of Ohio State University, an expert in this field, was invited to spend a year at Barnard Hospital attempting to isolate viruses by laboratory tests.

Second, suspicion that a distressing and recurring disease of the skin, called neurodermatitis, might be attributable to some kind of upset in mineral metabolism led to the addition of Dr. Ross C. MacCardle to the staff for the express purpose of testing out this idea by spectrographic analyses made in Washington University and Barnard Hospital.

Third, the idea that the almost uniformly fatal disease of pemphigus, characterized by the accumulation of much fluid in the skin, might be basically an osmotic phenomenon was followed up by inducing Dr. J. P. Baumberger, Professor of Physiology at Stanford University, to work at Barnard Hospital in the laboratory for about eight months.

It is natural for problems, evident to clinicians, thus to be brought into the laboratory for investigation, because answers to most questions can come only through experiments on animals and by the use of chemical and other procedures not practicable in the clinic. It would sadly handicap progress for either clinical or laboratory research to carry on alone independently of the other. The advantage is mutual when, as in Barnard Hospital, there is a healthy give and take between them, the shifting of work from laboratory to clinic and from clinic to laboratory wherever progress can best be made is our policy. This is facilitated by regularly held clinical conferences attended by the whole staff.

RESEARCH CONFERENCES

Research conferences are held once a month, except in the summer. Their primary purpose is to bring research work actually in progress in other institutions as well as in Barnard Hospital before the whole staff and interested students, doctors and others in St. Louis. This cross fertilization of ideas on a wider scale continues informally after the conferences. During the past year the following speakers and subjects were presented:

Jan. 29. Z. K. Cooper, Associate Pathologist, Barnard Hospital, "Basal Cell Carcinoma in Whole Mounts."

T. E. Walsh, Professor of Otolaryngology, Washington University, "Types and Treatments of Laryngeal Carcinomata."

Feb. 26. E. Reinhard, Assistant Professor of Medicine, Washington University, "Therapeutic Results in Treatment of Blood Dyscrasias With Radioactive Phosphorus."

Jual del Regato, Radiologist, Ellis Fischel State Cancer Hospital, "Treatment of Carcinoma of the Cervix."

Mar. 26. H. P. Pinkerton, Professor of Pathology, St. Louis University, "The Etiology and Essential Nature of Hodgkin's Disease."

L. G. Grand, Department of Biology, New York University, "Cytoplasmic Inclusions in Hodgkin's Disease."

H. A. Hoster, Department of Medicine, Ohio State University, "Organization of Group Program in the Study of Hodgkin's Disease."

Apr. 30. E. D. Sugarbaker, Chief Surgical Service, Ellis Fischel State Cancer Hospital, "The Problem of Radical Lymph Node Dissections."

J. H. Van Dyke, Assistant Professor of Anatomy, Washington University, "Changes in the Thyroid and Parathyroids in Epidermal Carcinogenesis."

May 28. C. J. Costello, Resident in Surgery,

Barnard Hospital, "Paget's Disease of the Breast."

N. A. Womack, Surgical Staff, Barnard Hospital, "Uptake of Radio Phosphorus in Epidermis Subjected to Methylcholanthrene."

R. L. Simoes, Brazilian Research Fellow.

Oct. 29. R. S. Weiss and H. R. Gottschalk, Dermatological Service, Barnard Hospital, "Penicillin Sensitivity."

W. L. Simpson, Research Associate, Barnard Hospital, "Cancer After a Single Burn."

Nov. 26. H. Montgomery, Dermatologist, Mayo Clinic, "Precancerous Dermatoses."

PLANS FOR EXPANSION

One who has not been in the thick of it will find it difficult to realize how much time and thought have been given during 1945 to plans for expansion of Barnard Hospital. There have been visits to Washington, New York and point East and discussions with many people from Surgeon General Parran down. The Governor of the State, the Mayor of the City and others have expressed approval. Expansion would be in all services of the hospital, not simply in research.

Barnard Hospital is a midwest pioneer institution. The establishment of the Ellis Fischel State Cancer Hospital came directly from it. These two are the only cancer hospitals west of the Mississippi fully approved by the American College of Surgeons. For forty years Barnard Hospital has served indigents in St. Louis, Southern Illinois, Missouri and middle western states tributary to metropolitan St. Louis. Great impetus in presenting this service to the public was given by the action of the Women's Advertising Club of St. Louis in devoting the proceeds of its Annual Gridiron Dinner on March 22 to cancer research at Barnard Hospital. It is a source of satisfaction that the Club has decided again to help Barnard Hospital in 1946.

SCIENTIFIC CONTRIBUTIONS DURING 1945

1. Carruthers, C.: Microdetermination of Copper With the Polarograph, Indus. & Eng. Chem. **17**:398.
2. Carruthers, C., and Suntzeff, V.: Copper and Zinc in Epidermal Carcinogenesis Induced by Methylcholanthrene, J. Biol. Chem., **159**:647-651.
3. Cowdry, E. V.: Experimental Epidermal Methycholanthrene Carcinogenesis in Mice, J. Invest. Derm. (Second Summarizing Report), **6**:15-42.
4. Cowdry, E. V.: Children Can Have Cancer, Too, Magazine Digest **30**:9-12. (Reprinted in Bull. Am. Cancer Soc.)
5. Cowdry, E. V.: Microscopic and Chemical Properties of Precancerous Lesions, Science **102**:165-168. (Reprinted in Bull. Am. Cancer Soc.)
6. Cowdry, E. V.: Shall They Survive? Science **101**:625-629.
7. Cowdry, E. V.: The Barnard Free Skin and Cancer Hospital Research Report for 1944, J. Missouri M. A. **42**:495-501.
8. Cowdry, E. V.: William Cramer (Obituary), Arch. Path. **40**:283-285.
9. Cowdry, E. V.: Scientific Contributions, Barnard Free Skin and Cancer Hospital 1906-1944, Privately printed, 61 pp.
10. Jorstad, L. H.: Management of the Lymph Nodes of the Neck in Neoplastic Disease, Mississippi Valley M. J. July 1945. 1-5.
11. Kidd, F. H., Jr., and Odell, V.: Tube Feeding, Am. J. Surg. **68**:87-88.
12. Moore, M.: Mycotic Granulomata and Cutaneous Tuberculosis: A Comparison of the Histopathologic Response, J. Invest. Derm. **6**:149-181.
13. Seelig, M. G.: Talcum as an Operating Room Hazard, South. M. J. **38**:470-472.
14. Seelig, M. G., and Verda, D. J.: El Peligro de Los Polvos de Talco, El Hospital **1**:26-33.
15. Seelig, M. G., and Verda, D. J.: The Talcum Powder Problem, J. Mt. Sinai Hosp. **12**:655-666.
16. Simpson, W. L., and Cramer, W.: Fluorescence Studies of Carcinogens in Skin. II Mouse Skin After Single and Multiple Applications of 20-Methylcholanthrene, Cancer Research **5**:449-463.
17. Simpson, W. L., and Cramer, W.: Sensitization of Skin by Carcinogenically Inactive Methylcholanthrene to Subsequent Carcinogenesis, Cancer Research **5**:5-10.
18. Simpson, W. L.: Carruthers, C., and Cramer, W.: Loss of Carcinogenic Activity When Methylcholanthrene Is Dissolved in Anhydrous Lanolin, Cancer Research **5**:1-4.
19. Stowell, R. E.: The Effects of Roentgen Radiation on the Thymonucleic Acid Content of Transplantable Mammary Carcinomas, Cancer Research **5**:169-178.
20. Stowell, R. E.: The Photometric Histochemical Determination of Substances in the Skin, J. Invest. Derm. **6**:183-189.
21. Stowell, R. E., and Cooper, Z. K.: The Relative Thymonucleic Acid Content of Human Normal Epidermis, Hyperplastic Epidermis, and Epidermoid Carcinomas, Cancer Research **5**:295-301.
22. Suntzeff, V., and Carruthers, C.: The Mineral Composition of Human Epidermis, J. Biol. Chem. **160**:567-569.
23. Suntzeff, V.; Carruthers, C., and Cowdry, E. V.: Influence of Age on Calcium in Epidermal Carcinogenesis Induced by Methylcholanthrene in Mice, Cancer Research, **5**:572-575.
24. Wicks, L. F., and Suntzeff, V.: Changes in Epidermal Cholesterol During Methylcholanthrene Carcinogenesis in Mice, Cancer Research **5**:464-468.
25. Ziegler, D. M.: A Method for the Collection of Nuclei of Epidermal Cells, Anat. Rec. **91**:169-173.

Reprints will be sent on request as long as the supply remains sufficient.

CASE REPORTS OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 87

PRESENTATION OF CASE

B. N., a 65 year old white male, entered Barnes Hospital for the first time on September 14 and was discharged on September 25, 1939. He died on July 7, 1945, during his fourth hospital admission.

Chief Complaint.—Abdominal pains, bleeding from the bowels, loss of weight and difficulty in urinating.

Family History.—The patient's mother died at the age of 50 of cancer of the uterus. One brother died late in life of coronary thrombosis.

Past History.—The patient had had pneumonia followed by hemorrhage from the lungs at the age of 12. During the ten years previous to admission he was told on several occasions that he had a murmur in his heart and that the circulation to his feet had been impaired. Otherwise he had apparently been in good health. He followed a sedentary occupation; he was in good financial circumstances, and used neither tobacco nor alcohol. His usual weight was 165 pounds.

Present Illness.—For the last twenty years the patient had had episodes of abdominal pain. The pain was localized in the upper abdomen; it would occur from two to three hours after eating and was relieved by a glass of milk. The pain usually was not of great severity, and he required from one to two glasses of milk a day to keep him comfortable. These episodes were irregular in their occurrence and duration. The only other digestive irregularity was belching of gas at the time of attacks of pain. Three weeks previous to admission the patient had

a tarry stool, but the color of the stools gradually returned to normal. At this time the patient felt weak and he noted a loss of 15 pounds from his usual weight. He had never bled previously nor experienced such weakness. For the last five or six years he had experienced difficulty in urinating, characterized by frequency, urgency and dribbling.

Physical Examination.—Temperature was 36.6 C., pulse 74, respirations 18 and blood pressure 160/104. The patient appeared alert. The skin was rather loose suggesting loss of weight. Other than postnasal discharge there was nothing abnormal in the upper respiratory tract. Optic discs were normal. There were no retinal hemorrhages or exudates. The vessels appeared in good condition. The lungs showed some emphysema. There were showers of dry, fine rales on deep inspiration over both lung bases. The breath sounds were distant throughout. Percussion of the heart was difficult because of the emphysema, but there appeared to be slight enlargement to the left. The rhythm was regular. Sounds were somewhat distant. There was a systolic murmur at the aortic area transmitted upward and also heard over the precordium. There likewise was a systolic murmur at the apex transmitted toward the axilla. The peripheral vessels showed moderate sclerosis. A sharp liver edge was just palpable on inspiration. It was not tender. No other organs or masses were felt. The prostate was smooth, firm and about twice its normal size. The left dorsalis pedis artery showed diminished pulsations. The extremities were otherwise normal.

Laboratory Findings.—Blood count: red cells 4,610,000, hemoglobin 90 per cent, white cells 9,000; differential count: eosinophils 1 per cent, "stab" forms 9 per cent, segmented forms 66 per cent, lymphocytes 21 per cent, monocytes 3 per cent. Urinalysis showed a faint trace of albumin; there was no increase in white blood cells. Blood sugar was 65 mgs. per cent. Blood nonprotein nitrogen was 24 mgs. per cent. Kahn test was negative. Stool examination was guaiac negative. Electrocardiogram showed "left axis deviation." Report of gastrointestinal series stated: "The duodenal cap showed irregular contour and was moderately deformed but the deformity was not characteristic of ulcer. The appendix was visualized below the cecum and was suggestively thick. Over this area there was slight tenderness. The gall bladder was studied by oral cholecystography and was considered normal." The final impression was "pathologic appendix."

Course in Hospital.—The patient was transferred to the genitourinary service. There 5 cc. of residual bladder urine were found. A routine transurethral resection of the prostate was done and the tissue removed showed marked hyperplasia but no suggestion of malignancy. The patient was discharged with a diagnosis of duodenal ulcer, essential hypertension, chronic appendicitis and benign prostatic enlargement.

Second Hospital Admission.—The patient was admitted on the Nose and Throat service with the complaint of recurrent maxillary sinusitis. He had had on several occasions a right maxillary infection requiring irrigation, which usually brought relief. Recently recurrence had been more frequent and he was advised to enter the hospital for an antrotomy.

Physical Examination.—Other than the upper respiratory infection, the significant findings were as follows: The blood pressure was 180/110. The heart was enlarged slightly. There was a systolic murmur at the base. The aortic second sound was accentuated. There was a soft systolic "blow" at the apex. No other abnormal findings were recorded.

Laboratory Findings.—Routine urinalysis and blood count were normal. An electrocardiogram showed left axis deviation and ventricular premature contraction.

Course in Hospital.—The patient was operated upon and a right antral window was established. His postoperative course was uneventful.

Third Hospital Admission. — (September 19 through November 11, 1944).

Interval History.—Since the last admission, the patient had been in fairly good health until nine months prior to this admission when he had pneumonia but was not hospitalized. During this time he lost some fifteen pounds in weight, which he never regained, and noted easy fatigability. Symptoms of the previous duodenal ulcer seemed less frequent and less severe, although one year previous to this admission one tarry stool had been observed. Shortly after recovery from pneumonia the patient became aware of abdominal discomfort characterized by a sense of fullness. One month previous to admission he went on a vacation but gained no weight. During this time he ate breakfast with fair relish but thereafter had little appetite for food the rest of the day. During this month he restricted his diet to soft food.

Physical Examination.—Temperature was 36.7 C., pulse was 80, respirations 20 and blood pressure 190/100. The patient appeared fatigued and somewhat pale. The pupils reacted normally to light and the fundi showed moderate sclerosis of the arteries. The lungs again revealed some emphysema, but no other abnormalities. The heart was not enlarged. The rhythm was regular. The sounds were of fair quality. The systolic murmur heard previously at the apex was noted again, but not the aortic murmur. The aortic second sound was accentuated. The liver was felt as a firm, large mass and at the edge elevated nodules 2 to 3 cm. in diameter were palpable. No other abnormalities were present. The prostate was enlarged to twice its normal size and was firm and smooth. The extremities appeared to be normal and the reflexes were physiologic.

Laboratory Findings.—Blood count: red cells 4,580,000, hemoglobin 16.7 grams, white cells 7,500, differential count: within normal limits. Urinalysis showed albumin, heavy trace, and occasional white

blood cells. Stool examination was guaiac negative. Kahn reaction was negative. Blood chemistry: sugar 80 mgs. per cent, nonprotein nitrogen 26 mgs. per cent, total proteins 6.1 gms. per cent, albumin 3.6, globulin 2.5. Cephalin cholesterol flocculation test was negative. Gastric analysis: 30 cc. of clear fluid, no blood. Free acid was 25 degrees, fasting acid 27 degrees. Electrocardiogram: T waves diphasic in Lead I, slight slurring of the CRS complex. Diagnosis of myocardial damage. Roentgenogram of the chest showed aortic lengthening and elevation of the right leaf of the diaphragm. Gastrointestinal series: the duodenum showed perfect contour and tonicity. The gastric motility was adequate. The appendix was again visualized lying below the cecum. Diagnosis was indeterminate. Cholecystogram revealed a normal gallbladder.

Course in Hospital.—Inasmuch as no diagnosis was established an exploratory laparotomy was advised. The patient was transferred to the Surgical Service and a laparotomy was performed. In the left upper quadrant underneath the stomach in the lesser peritoneal cavity was a round mass about 2 inches in diameter which was removed for histologic study. The most striking feature within the abdomen was the enormous malignancy involving the lobes of the liver. Microscopic study of the tissue removed revealed a leiomyoma of the stomach. The postoperative course was uneventful.

Final Hospital Admission.—(April 9 to July 7, 1945.)

Interval History.—Although the patient felt weak, he developed a fair appetite. He was out of bed for part of the day although at these times his ankles and legs became swollen. Three months previous to admission the abdomen gradually became distended and then the genitals became edematous. The patient gradually became very uncomfortable with abdominal distention and the shortness of breath which it seemed to cause.

Physical Examination.—The abdomen was markedly distended. The scrotum and legs were edematous. The cardiac findings apparently had remained unchanged. The blood pressure was 160/90.

Laboratory Findings.—Blood count: red cells, 4,030,000, hemoglobin 14.3 gm., white cells 10,950, differential count: eosinophils 3 per cent, "stab" forms 5 per cent, segmented forms 51 per cent, lymphocytes 4 per cent, monocytes 8 per cent. Urinalysis showed albumin 1 plus with occasional white blood cells. Stool examination was guaiac positive. Nonprotein nitrogen was 18 mgs. per cent. Total blood protein was 5.0 gm. per cent, albumin 2.9, globulin 2.1.

Course in Hospital.—5,000 cc. of cloudy yellow fluid were removed from the abdomen. The specific gravity of this fluid was 1.012 and the protein content was 1.4 gms. per cent. Culture showed *B. subtilis.*

The paracentesis greatly relieved the abdominal discomfort. Microscopic section of the fluid sediment showed no tumor cells. The course in the hospital was progressively downhill. The abdomen filled with fluid rapidly after paracentesis, which had to be performed about once a week; from 5,000 to 7,500 cc. of fluid were removed each time. The patient developed considerable abdominal pain and required frequent injections of dilaudid. He died quietly.

CLINICAL DISCUSSION

Dr. Harry Alexander: There are many features of this case that seem to be appropriate for discussion. The patient and his mother both died of cancer. This introduces a question of hereditary influence. What information is there on this subject? Dr. Moore, may we call on you?

Dr. Robert A. Moore: I think there is much evidence for a hereditary influence. First, the existence of definite cancer families has been well established. One finds a high incidence of tumors, or sometimes of only certain tumors, in these families. The most thoroughly studied family is the so-called Warthin cancer family of central Michigan in which there was a very high incidence of carcinoma of the uterus and the gastrointestinal tract. There is further evidence for the hereditary influence in the occurrence of multiple malignant tumors in one individual. If a patient develops a malignant tumor at about the age of 40 and lives to the age of 43, calculations based upon recognized statistics can estimate the chances of such persons of developing a second tumor during this period. Statistically, the chances are relatively slight. By observation at autopsy, however, the actual incidence of such tumors is found to be from four to six times as high as the estimate based on chance alone.

Dr. Alexander: The first relevant symptom in keeping with the major features of this case developed twenty years before the patient's first admission. At the age of about 45, he developed signs of a peptic ulcer. This was not severe until about three weeks before his first admission, at which time he had a hemorrhage. He came in five years later, which was his third admission, but there were no symptoms. On his last admission also there was no evidence of a peptic ulcer. In view of the evidence, Dr. Duden, do you believe this patient had a peptic ulcer?

Dr. Charles Duden: No, I do not think he did. A person may have a duodenal ulcer and it may not be seen in the roentgenogram, but the fact that he had two negative gastrointestinal series makes me think that he did not have a peptic ulcer.

Dr. Alexander: Is there any particular location of a peptic ulcer that makes it less easily visible?

Dr. Duden: Yes. Those located on the anterior and posterior surfaces of the duodenum and stomach are less likely to be seen. This tumor was on the posterior wall of the stomach.

Dr. Alexander: The report of ulcer was five years ago in this patient but the symptoms persisted for a long time. If a hundred cases of peptic ulcer were examined by roentgen ray, Dr. Duden, offhand what would you say the frequency would be of observing a peptic ulcer?



"SMOOTHAGE" FOR THE CONVALESCENT

METAMUCIL

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

A PRODUCT OF SEARLE RESEARCH

By promoting normal peristalsis without irritating the delicate mucosa, Metamucil is particularly desirable for treating the constipation of hospital patients.

Metamucil provides "smoothage" . . . a modern concept for the treatment of constipation. It does not interfere with digestion or absorb oil-soluble vitamins. It is rapidly miscible, pleasantly palatable.

Metamucil is the highly-purified, nonirritating extract of the seed of the psyllium, Plantago ovata (50%), combined with dextrose (50%). In 1-lb., 8-oz. and 4-oz. containers.

Metamucil is the registered trade-mark of G. D. Searle & Co.

SEARLE RESEARCH IN THE SERVICE OF MEDICINE



This baby lets his doctor sleep

When the doctor prescribes 'Dexin' brand High Dextrin Carbohydrate, his little charges are likely to sleep more soundly and he himself gets a better rest. 'Dexin's' high dextrin content (1) diminishes intestinal fermentation with its tendency to colic and diarrhea, and (2) promotes the formation of soft, flocculent, easily digested curds. Infants rest more quietly and there are fewer late-night frantic phone calls.

'Dexin', not so sweet as to be unpalatable, is readily soluble in either hot or cold milk or other bland fluids. 'Dexin' does make a difference.

'Dexin' Reg. Trademark

'Dexin'

HIGH DEXTRIN CARBOHYDRATE

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available Carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

Literature on request

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

DR. DUDEN: Ninety-five per cent.

DR. ALEXANDER: Dr. Bottom, do you agree with that?

DR. DONALD S. BOTTOM: Yes, I do.

DR. ALEXANDER: What about you, Dr. Scheff, do you agree also?

DR. HAROLD SCHEFF: Yes.

DR. ALEXANDER: Do you think he had a peptic ulcer, Dr. Scheff?

DR. SCHEFF: Yes, he had the symptoms for a long time, was relieved by milk, and the two tarry stools are signs of ulceration in the gastrointestinal tract.

DR. ALEXANDER: How soon does the stool become negative for blood?

DR. SCHEFF: That depends on the amount of blood. If there is only a mild hemorrhage, it would be a matter of just a few days.

DR. ALEXANDER: If he had a pathologic lesion in the duodenum, would it cause abnormal gastroscopic findings?

DR. SCHEFF: No, not unless there was some obstruction. Then there would be a superficial ulceration of the gastric mucosa.

DR. ALEXANDER: There is some question, then, concerning whether or not this man had a peptic ulcer. He had 25 degrees of free acid. Is that very important if we are dealing with a peptic ulcer, Dr. Duden?

DR. DUDEN: Yes, I think it is important. Most ulcers are associated with hyperacidity. Twenty-five degrees would be normal, hence, the ulcer would probably not be active.

DR. ALEXANDER: What about free acid in a man of 65?

DR. DUDEN: Twenty-five degrees is a little high, as acid tends to decrease with age.

DR. EDWARD REINHART: He had one known lesion of the stomach. An ulcer would be a secondary lesion.

DR. SCHEFF: This tumor was not situated under the mucosa. It was on the peritoneal surface.

DR. ALEXANDER: Dr. Bottom, if this tumor was in the wall of the stomach ten years before death and measured 2 inches in diameter, would it show radiographically?

DR. BOTTOM: That would depend upon the location in the stomach and the involvement of muscle. There might be a defect and disturbance of the peristalsis. However, that was not true in this case.

DR. ALEXANDER: What about tumors of the stomach?

DR. MOORE: It is not at all clear that this mass was attached to the stomach. It was under the stomach.

DR. REINHART: Is there anything characteristic of the leiomyoma of the stomach?

DR. MOORE: No, it is just like any other leiomyoma. If I may add to the diagnosis of the surgical pathologists, there was a scar on the outside of the stomach indicating that it had been cut into on the posterior wall.

DR. ALEXANDER: What about a metastasis from a leiomyoma?

DR. MOORE: It does occur. It is unusual if one contrasts it with all tumors of the stomach. I do not know how many there have been, but if I were to see one I would think it rare enough that it should be reported.

DR. ALEXANDER: It is difficult to relate twenty-five years of symptoms to a tumor. He had a pathologic diagnosis of a leiomyoma and metastases in many sites. Is there any question about that diagnosis? The evidence indicates that he had a leiomyosarcoma and perhaps a peptic ulcer.

DR. CARL HARFORD: Is it not possible that he had a metastatic cancer in the liver which had nothing to do with the tumor of the stomach?

DR. SCHEFF: Is it difficult to tell if leiomyoma is malignant?

DR. MOORE: Yes.

DR. HARFORD: The report was first a leiomyoma and not a leiomyosarcoma.

DR. ALEXANDER: That is a very good point.

DR. SCHEFF: In Bockus' textbook, the two are said to be very difficult to differentiate.

DR. ALEXANDER: Although all the evidence is here, then, it would not be surprising to find another kind of sarcoma.

DR. MOORE: I might elaborate my statement regarding the diagnosis of leiomyoma and leiomyosarcoma. In all tissues in which there are both benign and malignant tumors, various tumors form a continuous series from the most benign to the most malignant and, while members of either extreme of this series are identified easily, there is a midzone in which diagnosis is difficult.

DR. CARL V. MOORE: Where could another tumor be primary?

DR. HARFORD: Most commonly in the gastrointestinal tract. The site was not found after two examinations in this patient, however. Therefore, I think we should consider the pancreas and the genitourinary tract and, possibly, even the liver as a primary site.

DR. ALEXANDER: Does the prostate usually metastasize to the liver?

DR. HARFORD: I think that it does not.

DR. WILLIAM H. OLMSTED: The tissue from transurethral resection may not have had cancer in it, but that does not rule out the existence of a malignant tumor in that site.

DR. ALEXANDER: That is possible. This patient, then, apparently had a leiomyoma of the stomach which could have been a malignant leiomyoma. He had a neoplasm of the liver which might have been metastatic from the leiomyoma but which was not identified. We all agree on this. Finally, he had a murmur in his heart ten years before he entered the hospital, and he also had hypertension.

ANATOMIC DIAGNOSIS*

Recent and healed wounds of the abdominal wall (history of exploratory laparotomy with removal of a pedunculated tumor of smooth muscle of the stomach, ten months, and numerous paracentheses subsequently).

Metastatic leiomyosarcoma in the liver, pancreas, the lower lobe of the right lung, the upper lobe of the left lung, the right kidney, gallbladder, urinary bladder and mesentery.

Encapsulated focal hemorrhage in the wall of the stomach.

Serofibrinous ascites (3,000 cc.).

Hydrothorax, bilateral (right 100 cc. left 60 cc.).

Edema of the subcutaneous tissues of the lower extremities.

Serous atrophy of the epicardial fat.

Brown pigmentation of the myocardium.

Hemorrhagic bronchopneumonia in the left lung and lower lobe of the right lung.

PATHOLOGIC DISCUSSION

Dr. Robert A. Moore: I can best discuss the observations in this patient by telling you the actual story of our study. This method will not only serve the practical ends of establishing a diagnosis, but also point out the dangers of a snap diagnosis.

Dr. David Smith performed this autopsy and when he had removed the organs but not dissected them completely I happened to come into the autopsy room. The size of the liver—6,000 gm.—and the presence of numerous gray-white nodules in it up to 3 cm. in diameter attracted my attention immediately. The most probable diagnosis was metastatic carcinoma. Accordingly I asked Dr. Smith to make a careful study of those organs, carcinomas of which are most likely to metastasize to the liver—stomach, colon, pancreas, prostate, kidney and lung. With this, I went about other duties, and thought little more about this case until the following Friday when I went over all autopsies of the preceding week. Dr. Smith pointed out that he did not find a primary tumor in any other organ. There was left then only the possibility of a primary tumor of the liver with metastases to the peritoneum, lung and kidney. However, the general appearance was not that of a primary carcinoma of the liver. There were no metastases to lymph nodes about the porta hepatis. The neoplastic tissue was gray and firm in contrast with the usual soft hemorrhagic nodules of carcinoma of the liver. There was no invasion of the veins in the liver and there was no cirrhosis. No one of these is invariably observed in hepatic carcinoma, but the absence of all four would be unusual.

Manifestly there were inconsistencies which made it desirable to reexamine the original premise that this patient had a metastatic carcinoma of the liver. More careful examination of the individual nodules in the liver revealed an unusual structure. As already pointed out, the neoplastic tissue was gray-white and firm. In addition, it was composed of a single architectural pattern of fibrillary whorled structure. There were no small islands of yellow or gray set through a gray background which are so characteristic of a carcinoma. In fact, the cut surface of a nodule in the liver was not unlike the cut surface of a leiomyoma of the uterus—an appearance which has been compared to that of watered silk.

It was then apparent that the original assumption was indeed wrong. This patient had multiple nodules of a sarcoma in the liver, not a carcinoma. Primary sarcoma of the liver has been reported but multiple nodules, all of about the same size, in all lobes, is not the usual picture.

The next step in establishing the diagnosis was to study this tumor microscopically. The cells are for the most part fusiform, but many are irregular in shape and there are numerous multinucleated cells. In sections stained with phosphotungstic acid hematoxylin there are clearly defined myoglia. Hence, there is no question but that the tumors of the liver are leiomyosarcomas.

We then turned to further study of the tumor removed from the posterior wall of the stomach at operation. The microscopic structure is essentially the same, but the evidences of malignancy are much less apparent. There is some anaplasia of the cells but not sufficient to establish independently a certain diagnosis of sarcoma.

On the basis of this reasoning, I conclude that this patient had a small leiomyosarcoma of the stomach with metastases, principally to the liver. The relation to a possible preceding ulcer is not clear. So far as I know, there is no sequential association of peptic ulcer and sarcoma of the stomach. It may be that the patient had a small leiomyoma of the stomach for years with superficial transient ulceration on two occasions. Later, the leiomyoma became a leiomyosarcoma.

The prostate showed the usual appearance of nodular hyperplasia without evidence of carcinoma.

There was moderate to advanced arteriosclerosis of the principal arteries with slight secondary changes in the heart, brain and kidneys. The heart was not enlarged.

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 4. April, 1946.

THE EARLY DIAGNOSIS OF DISEASES OF THE CHEST

The early diagnosis of diseases of the chest is more important today than at any time in the history of medicine. Mass X-ray surveys have revealed that intrathoracic abnormalities and dis-

eases are more frequent than has hitherto been suspected. Modern diagnostic procedures make early diagnosis more easily attainable than before. Modern medical and surgical procedures have increased the chances of control or cure in most diseases of the chest.

Not so long ago the physician had to rely on the history, the physical examination and inadequate bacteriologic study of the sputum to establish a diagnosis of intrathoracic disease. Diagnoses could be made during this era only when the pathologic process was in an advanced stage. In recent years, however, fluoroscopy and roentgenography have become universally available. Bronchoscopy has been perfected so that it can now be performed with only slight discomfort to the patient and with little risk. Better bacteriologic technics have been developed. Aspiration biopsy of lung tumors is helpful in certain cases. The advance in medical and surgical therapy of chest lesions has kept pace with the diagnostic developments.

In spite of these facts, 60 per cent of tuberculous patients who are referred to sanatoriums have far advanced disease, and only 10 per cent have minimal lesions. Less than 25 per cent of the patients with cancer of the lung are referred for surgery before extension of the tumor has occurred. Recently Overholt discovered that among 153 patients with cancer of the lung an incorrect diagnosis had been made in 95 cases (60 per cent). Treatment based on this had been maintained for long periods of time.

There may be several reasons for the delay in diagnosis. The patient frequently delays going to the physician because he has few or no symptoms; the presenting clinical picture often suggests another diagnosis; physical examination is notoriously unreliable; and the application of rigid diagnostic methods is often delayed because the physician has not developed a sufficiently strong suspicion of the underlying disease.

No attempt will be made to cover completely the symptoms associated with intrathoracic diseases, but the following points require emphasis. Almost all the diseases of the chest have an early asymptomatic stage, during which the pathologic process can be discovered only by X-raying the chest. This stage is apt to be so mild that the seriousness of the underlying lesion is overlooked. Cancer and tuberculosis may masquerade as each other, or as any of the commonplace diseases of the chest, or as an entirely foreign clinical picture, such as arthritis.

Physical examination of the chest is essential in the evaluation of any patient, but the time has come to recognize its limitations as well as its value. As early as 1933, Sampson and Brown reported that moderately coarse râles at an apex were the only reliable data obtained on physical examination, and added that these were present in only 27 per cent of the minimal cases. They analyzed the occurrence of the five cardinal signs and symptoms of tuberculosis in a series of 280 cases with minimal disease. Tubercle bacilli were found in the sputum in 35 per cent, râles in 27 per cent, hemoptysis in 26 per cent, pleural effusion in 12 per cent, and X-ray evidence of pulmonary tuberculosis in over 99 per cent. In carcinoma of the lung, physical signs are extremely unreliable and at best only suggestive.

Roentgenologic study of the chest should be a routine procedure in the examination of every patient admitted to hospitals and institutions. In the light of present knowledge, routine roentgenologic study of the chest is at least four times as important as blood cell counts, urinalyses or other routine procedures now in use. It also serves to protect patients and hospital personnel against the unsuspected active cases of tuberculosis that are constantly present in hospitals.

In every patient suspected of having tuberculosis careful sputum studies should be performed in an attempt to confirm the diagnosis. To avoid delay, the use of routine smears should be avoided. These smears are so unreliable that a negative result is meaningless. Three consecutive seventy-two hour pooled sputum specimens should be concentrated. If they are negative on microscopic examination, the sediment should be cultured and inoculated into guinea pigs, and three consecutive gastric lavages examined immediately by the concentration method. Acid-fast bacilli found in gastric lavages when the sputum is negative should always be cultured and inoculated into a guinea pig to identify the acid-fast bacilli as tubercle bacilli. When these tests are repeatedly negative in a patient with a demonstrable parenchymal infiltration in the lung that is apparently active, the lesion is probably non-tuberculous, and other diagnostic procedures are indicated.

Any patient with a visible tumor or an unexplained density or suppuration in the lung, especially if he is in the middle or older age group, should be suspected of having a pulmonary cancer. Such patients should be bronchoscoped immediately; 60 to 70 per cent of bronchiogenic carcinomas originate in the major bronchi, and a biopsy specimen to establish the diagnosis can be obtained.

Surgical exploration of the chest is a safe procedure, and should be utilized more frequently to determine the etiology of unexplained pulmonary lesions. Aspiration biopsy is used to secure tissue for pathologic study only in cases that are obviously inoperable. In patients on whom operation is possible, exploration is safer and more accurate.

The responsibility for the early apprehension of pulmonary disease rests largely on the shoulders of the general practitioner and the internist, since they are the first to see the patient. Their offices should be and can be the greatest case-finding agencies in the entire field of medical practice.

The Early Diagnosis of Diseases of the Chest, Norman J. Wilson, M.D., New England Jour. of Med., March 15, 1945.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

APRIL, 1946

EDITORIALS

POSTGRADUATE MEDICAL EDUCATION

One of the great challenges that faces every medical school today centers about the development of a plan for the Postgraduate Medical Education of those thousands of physicians whose hospital training or medical practice was interrupted by military service. Many young doctors who participated in the accelerated program and experienced only the minimal houseship are in particular need of further medical education. The fulfillment of this obligation is essential to safeguard the quality of medical care throughout the country—even if one sublimates the normal debt to these physicians.

A recent analysis conducted by the American Medical Association revealed that four fifths of the graduates since 1920 have indicated a desire to participate in some type of postgraduate medical training. Although the greatest demand for graduate training comes from physicians who have graduated during the last decade who wish to prepare themselves for certification by a specialty board, there should be a great demand from the older practitioner for the shorter courses of a practical nature. Since St. Louis is the largest postgraduate medical center in the middle west, it is expected that its two schools of medicine will create opportunities not only for their own graduates and former house staff members but also for many graduates from other schools of medicine.

Although many types of postgraduate courses are presented, one is rather unique—the continuation courses for the general practitioner. This type of postgraduate course has been designed to meet the specific needs of those physicians now actively engaged in the practice of medicine in St. Louis or who live within commuting distance. These doctors may participate under any one of several plans and not disrupt their private practice of clinical medicine. They may elect, for example, to participate one day per week, per month or any multiple thereof. These courses will be available shortly and if the demand warrants it, will be presented throughout the school year. This particular type of postgraduate instruction will consist of lectures, demonstrations, ward rounds, dry clinics, conferences and seminars.

Although civilian physicians are eligible for enrollment in this program, medical veterans will be given preference in all courses. The tuition will be paid by the United States Government for those discharged medical officers eligible for educational benefits under Public Law 346 (so-called "G. I. Bill of Rights").

MEDICAL SERVICE PLANS IN MISSOURI

A progress report of Missouri Medical Service, styled "What the Doctor Ordered for the People of Missouri" recently was mailed to all members of the Missouri State Medical Association in the area served by this plan.

The report presented a brief résumé of the operation of the plan, the number of persons enrolled (30,000) and a financial chart showing that the plan had net assets as of December 31, 1945, of more than $33,000. Considering that the plan began operation only a few months ago, April 15, 1945, this is indeed a fine showing. Enrollment of members during the first three months of 1946 has exceeded 3,000 persons monthly.

Membership in Surgical Care, Inc., of Kansas City, the physician sponsored plan which is serving Missouri people in nineteen counties in the northwest section of the state, now exceeds 60,000 persons. Reserves for future contingencies are more than adequate and it is expected that enrollment will approximate 100,000 persons by the end of 1946.

These voluntary plans, sponsored and inaugurated by Missouri doctors, at present offer only limited medical, surgical and obstetrical care to the subscribers. It is expected, however, that when conditions warrant and finances will permit, benefits will be extended. The aim of both plans is a program of increasingly complete medical care. The plans are medicine's own answer to insistent demands that medical care be made more readily available in times of emergency without undue financial sacrifice. The success of both plans demonstrate that the medical profession can take the lead in developing new services to meet new needs.

NEWS NOTES

Dr. August A. Werner, St. Louis, was the guest of the Southwestern Pharmaceutical Association at Evansville, Ind., on February 21. He spoke on "The Male Climacteric."

Dr. H. B. Goodrich, Hannibal, spoke before the Rotary Club in Hannibal on medical care for the American people. Introduced by Dr. W. J. Smith, Dr. Goodrich explained how medical care in this

country has been improved until it is the best in the world.

Dr. O. S. Pate, North Kansas City, has been appointed coroner of Clay County.

Dr. B. L. Murphy, Hannibal, resumed the position of city physician, relieving Dr. E. R. Motley who served during Dr. Murphy's absence in service.

Dr. William J. Cremer, Nevada, has been appointed superintendent of State Hospital No. 1 at Fulton. He replaces Dr. C. C. Ault, Fulton, who has resigned to enter private practice in Little Rock, Ark.

Dr. J. A. Cline, Oran's only practicing physician, was honored recently at a banquet given by the Chamber of Commerce.

Dr. Seth S. Barnes, formerly of Cape Girardeau, has moved to Waynesville where as Health Officer he will direct the Pulaski County health program.

Dr. Wilbur McDonald, St. Joseph, has been named to the board of directors of the Buchanan County Tuberculosis Society, filling a vacancy caused by the resignation of Dr. H. E. Petersen.

Dr. Richard S. Weiss, St. Louis, retiring president of the Missouri Social Hygiene Association, spoke before the association at its annual meeting. He warned that penicillin is not a cure-all and must be supplemented with other drugs in the treatment of syphilis. Dr. Weiss was made an honorary president; Drs. Paul Zentay, G. O. Broun, A. H. Conrad and John V. Lawrence, vice presidents, and Drs. Carl A. Wattenberg and J. E. Mitchell were named to the board of directors.

Dr. Fred W. Hink, Kansas City, was elected president of the medical staff of the Independence Sanitarium. Dr. C. H. Allen is the retiring president. Dr. Vance Link was reelected secretary and treasurer, and Dr. R. F. Gard was named president elect for 1947.

Dr. Everett B. Sugarbaker of the Ellis Fischel Hospital at Columbia spoke at a dinner party for members of Clay County Medical Society. Dr. Sugarbaker told the group of the progress made and practices used in the retarding and cure of cancer.

The following program was presented at the spring session of the Southeast Missouri Medical Association in Cape Girardeau on March 4: Dr. C. T. Herbert, Cape Girardeau, spoke on "The Incidence and Distribution of Infantile Paralysis in Southeast Missouri During the Year 1945"; Dr. W. O. Finney, Chaffee, "Diagnosis and Treatment on Types of Cases of Infantile Paralysis Seen in Southeast Missouri"; Dr. Frank W. Hall, Cape Girardeau, "Present Status of Varicose Veins"; and Dr. D. Rusby Seabaugh, Cape Girardeau, "Kidney Disease Without Urinary Findings." Dr. Carl F. Vohs and Mr. T. R. O'Brien, St. Louis, were guest speakers at a dinner meeting, after which Drs. C. A. W. Zimmerman, C. T. Herbert and M. H. Shelby reported on "Forthcoming Legislation."

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Atkins, James, M.D., Lamar.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.
Bohrer, Edward R., M.D., Jefferson iCty.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Brookreson, A. F., M.D., Poplar Bluff.
Broyles, Watkins A., M.D., Bethany.
Brumm, Harold J., M.D., St. Joseph.
Camp, George H., M.D., Springfield.
Chiarotinno, Joseph F., M.D., St. Joseph.
Cooper, Maurice E., M.D., Columbia.
Craig, Irwin T., M.D., Joplin.
Craig, Owen, M.D., St. Joseph.
Crouch, F. Richard, M.D., Farmington.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Dowell, Donald M., M.D., Chillicothe.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Elkins, Ronald F., M.D., Springfield.
Ellis, Coburn H., M.D., Sweet Springs.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Goldberg, I. E., M.D., Polo.
Good, Raymond F., M.D., Independence.
Greene, Harry L., M.D., Hannibal.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.
Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D., Springfield.
Hughes, J. M., M.D., St. Joseph.
Isbell, Charles, M.D., Carthage.
Johnston, Andrew D., M.D., Waynesville.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kinney, Wm. M., M.D., Riverside, Calif.
Kitchen, William M., M.D., Moberly.
Knepper, Paul, M.D., St. Joseph.
Kulowski, Jacob, M.D., St. Joseph.
Landau, Daniel B., M.D., Hannibal.
Leech, Charles A., M.D., Columbia.
Lewellen, Charles H., M.D., Louisiana.

The First Year

THE SUCCESSFUL NUTRITIONAL history of S-M-A babies is due to the remarkable similarity of S-M-A to mother's milk. It is essentially the same as human milk in percentage of protein, fat, carbohydrate and ash, in chemical constants of the fat and in physical properties.

S-M-A* IS RECOMMENDED for normal, full term infants in the early weeks of life when a supplementary food is required for the breast-fed infant. It may be given to infants of any age whenever the mother's milk is unavailable, of poor quality or insufficient quantity.





S-M-A is derived from the milk of tuberculin-tested cows. Part of the butter fat of this milk is replaced with animal and vegetable fats, including biologically assayed cod liver oil. Milk sugar, vitamin A and D concentrate, carotene, thiamine hydrochloride, potassium chloride and iron are added. *REG. U. S. PAT. OFF.

Supplied: 1 lb. tins with measuring cup.

Wyeth

REG. U. S. PAT. OFF.

S. M. A. DIVISION • WYETH INCORPORATED • PHILADELPHIA 3, PA.

McDonald, W. P., M.D., St. Joseph.
McKinstry, Karl V., M.D., DeSoto.
McNew, William T., M.D., Carthage.
McPheeters, J. W., M.D., Poplar Bluff.
Morse, Marvin, M.D., St. Joseph.
Mullinax, Orr., M.D., St. Joseph.
Murphy, B. L., M.D., Hannibal.
O'Brien, James A., M.D., Joplin.
O'Donoghue, James, M.D., St. Joseph.
Platz, John H., M.D., Carrollton.
Pearse, Roy W., M.D., Nevada.
Post, Cyril A., M.D., Poplar Bluff.
Post, Winfred L., M.D., Joplin.
Redmond, William, M.D., St. Joseph.
Robichaux, E. B., M.D., Excelsior Springs.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Rowe, A. R., M.D., Popular Bluff.
Saferstein, H. T., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Scorse, S. W., M.D., Webb City.
Senne, Herbert C., M.D., St. Joseph.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stacey, W. T., M.D., St. Joseph.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Talty, M. H., M.D., St. Joseph.
Taylor, Leon A., M.D., Jefferson City.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Throgmorton, H. B., M.D., Sikeston.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Well, J. W., M.D., Palmyra.
Wepprich, Michael S., M.D., St. Charles.
Whitten, Foster, M.D., Carthage.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Wood, George H., M.D., Carthage.
Wray, R. B., M.D., Nevada.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Allen, William B., M.D., Kansas City.
Anderson, Richard W., M.D., Kansas City.
Baer, Alvin J., M.D., Kansas City.
Beal, Homer A., M.D., Kansas City.
Becker, Richard R., M.D., Kansas City.
Bee, James E., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Berry, Maxwell G., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brams, Jack B., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Buhler, Victor B., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.
Caldwell, John K., M.D., Kansas City.
Carlson, Hjalmar E., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coburn, Donald F., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Cohen, Harry K., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Danglade, James H., M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Duncan, Ralph E., M.D., Kansas City.
Erni, Harry, M.D., Kansas City.
Eubank, D.M., M.D., Raytown.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Fowler, I. Charles, M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gard, Raymond F., M.D., Kansas City.
Ginsberg, Norman A., M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Gist, William W., M.D., Kansas City.
Glasscock, Ernest L., M.D., Kansas City.
Goodman, LeRoy, M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Griffith, George W., M.D., Garden City.
Growdon, John A., M.D., Kansas City.
Halperin, Phillip, M.D., Kansas City.
Hamilton, Eugene, M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogan, Daniel F., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hollweg, K. C., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Howard, John C., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M.D., Kansas City.
Johnston, Paul N., M.D., Kansas City.
Kerr, Russell W., M.D., Kansas City.
Klein, Edward H., M.D., Kansas City.
Kranson, Seymour J., M.D., Kansas City.
Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lacy, Eugene N., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Levey, Harry B., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Marks, Mark M., M.D., Kansas City.
McAlester, A. W., M.D., Kansas City.
McClanahan, Robert C., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Miller, Gerald L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morest, F. Stanley, M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.
Myers, Robert M., M.D., Kansas City.
Nelson, Charles S., M.D., Kansas City.
Owens, Guy E., M.D., Kansas City.
Parker, Hubert M., M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Perry, Ralph, M.D., Kansas City.
Richardson, Lyman K., M.D., Kansas City, Kansas.
Robb, Thomas P., M.D., Kansas City.
Robinson, E. Kip, M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Roy, Gustave A., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Schutz, Richard B., M.D., Kansas City.
Sheldon, John, Jr., M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.



WHEN the menopausal storms set in—vasomotor disturbances, mental depression, unaccountable pain and tension—physicians today can take prompt, positive action to alleviate symptoms.

By the administration of a reliable solution of estrogenic substances, you may exert a gratifying measure of control.

For control of menopausal symptoms, you may turn with confidence to Solution of Estrogenic Substances, Smith-Dorsey . . . manufactured in the fully equipped, capably staffed Smith-Dorsey Laboratories . . . meeting rigid standards of purity and potency.

With such a medicinal, you can indeed *do something* about "stormy weather."

SOLUTION OF *Estrogenic Substances*

SMITH-DORSEY

Supplied in 1 cc. ampuls and 10 cc. ampul vials representing potencies of 5,000, 10,000 and 20,000 international units per cc.



THE SMITH-DORSEY COMPANY

LINCOLN • NEBRASKA

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

Stockwell, Arthur L., M.D., Kansas City.
Stofer, Dar D., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Tasker, Charles, M.D., Kansas City.
Underwood, Johnson J., M.D., Kansas City.
Unger, Harold, M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.
Wilkinson, E. A., M.D., Kansas City.
Willhelmy, E.W., M.D., Kansas City.
Wilson, F. I., M.D., Kansas City.
Wood, Laurence E., M.D., Kansas City, Kansas.
Wright, Robert Paul, M.D., Kansas City.
Ziegler, A.M., M.D., Kansas City.
Zellermayer, Jacob, M.D., Kansas City.
Zuber, Harold V., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Aker, Cecil G., M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Bagby, James W., M.D., St. Louis.
Bailey, W. H., M.D., St. Louis.
Barger, John A., M.D., Florissant.
Barnhart, W. T., M.D., St. Louis.
Barrett, Ralph M. S., M.D., St. Louis.
Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Bassman, Roland S., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Becker, George H., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Birsner, Louis J., M.D., St. Louis.
Boedeker, Roy V., M.D., St. Louis.
Bortnick, Arthur R., M.D., St. Louis.
Bressler, Bernard, M.D., St. Louis.
Brown, Seymour, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Carney, Joseph E., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Catanzaro, Anthony F., M.D., St. Louis.
Charles, B. H., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Conrad, Adolph H., Jr., M.D., St. Louis.
Cordonnier, Justin J., M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Cutler, Harold M., M.D., St. Louis.
Dalton, Arthur R., M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Devereaux, James A., M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dobbs, Otto R., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eidelman, J. Robert, M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.

Fletcher, Paul F., M.D., St. Louis.
Flynn, George T., Jr., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.
Freimuth, L. E., M.D., St. Louis.
Friedewald, Vincent E., M.D., St. Louis.
Furlow, Leonard T., M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Graul, Elmer G., M.D., St. Louis.
Gray, William H., M.D., Yakima, Wash.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Gunn, Walter T., M.D., St. Louis.
Harbison, Samuel P., M.D., Sewickley, Pa.
Hall, Lee A., M.D., St. Louis.
Hall, Robert A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hamilton, Eugene G., M.D., St. Louis.
Hamlett, Wm. H., M.D., St. Louis.
Hampton, Oscar P., M.D., St. Louis.
Hampton, Stanley P., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Hartnett, Dalton C., M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Hawker, Wm. D., M.D., St. Louis.
Hennelly, John J., M.D., St. Louis.
Hermann, Morris, M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Jensen, J. Ernst, M.D., St. Louis.
Jordan, Edward J., M.D., St. Louis.
Jostes, Frederick A., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Keffler, Karl L., M.D., St. Louis.
Kelly, R. Emmet, M.D., St. Louis.
Kelly, Robert W., M.D., St. Louis.
Kirtz, Louis, M.D., St. Louis.
Kirstein, Melvin B., M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Knight, Wm. A., Jr., M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Krebs, Joseph M., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Lattuada, Henry P., M.D., Danville, Ill.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
Londe, Sol, M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
Luedde, Philip S., M.D., St. Louis.
Lyman, Edward H., M.D., St. Louis.
Macnish, James M., M.D., St. Louis.
Malles, Conrad, M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
McAdam, Charles R., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
McGuire, Wm. A., M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Max, Paul, M.D., St. Louis.
Max, Paul F., M.D., St. Louis.
Meador, J. R., M.D., Clayton.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Michael, Vernon E., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mistachkin, Norman L., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mueller, Clarence E., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
O'Reilly, Daniel E., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.
Patton, John F., M.D., St. Louis.
Pelz, Mort D., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Piekarski, Anthony A., M.D., St. Louis.
Post, Cyril A., M.D., St. Louis.
Potashnick, Robert, M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Quirin, Warren S., M.D., St. Louis.
Raines, Oney C., Jr., M.D., Gulfport, Miss.
Reh, Edward P., M.D., St. Louis.
Reich, Harry A., M.D., St. Louis.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Roche, Maurice B., M.D., St. Louis.
Rosenfeld, Henry, M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Rouse, David M., M.D., St. Louis.
Rusk, Howard A., M.D., New York City.
Sanders, Robert D., M.D., St. Louis.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schuck, Carl A., M.D., Hamilton, Ohio.
Schulein, Vernon E., M.D., St. Louis.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Scott, Wendell G., M.D., St. Louis.
Senturia, Ben D., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Smith, Hugh R., M.D., St. Louis.
Steubner, Roland W., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stindel, C. E., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Strub, Giles J., M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Susanka, Wm. Dee, M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Tremain, Irl G., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Vaughan, J. Russell, M.D., St. Louis.
Virant, John A., M.D., Ladue.
Vitt, Edwin F., M.D., St. Louis.
Walton, Franklin E., M.D., St. Louis.
Warson, S. R., M.D., St. Louis.
Wasserman, Helman C., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weiner, David O., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.
Wood, Bennett R., M.D., St. Louis.
Wulff, George J. L., Jr., M.D., St. Louis.

A. M. A. Resumes "Doctors at Home"

The American Medical Association in cooperation with the National Broadcasting Company broadcasts each Saturday afternoon a program entitled "Doctors at Home." It goes on the air at 4 o'clock eastern standard time. This is the sixth season of broadcasting in dramatized form under the general title "Doctors at Work."

The Intrinsic Ingredient . . .

Every exceptional product or service has an intrinsic ingredient without which it would become dross or ordinary.

in Professional Protection

Specialized Service—our exclusive application to this one field—brings that extra "know how" to the defense of malpractice actions which has always distinguished Medical Protective. It is the Intrinsic Ingredient.



The

Medical Protective Company

of

Fort Wayne, Indiana

FINANCIAL STATEMENT FOR 1945

R. A. LENNERTSON & COMPANY
INDEPENDENT PUBLIC ACCOUNTANTS
SAINT LOUIS, MISSOURI

ROBERT A. LENNERTSON
CERTIFIED PUBLIC ACCOUNTANT

MEMBER AMERICAN INSTITUTE
OF ACCOUNTANTS

March 15, 1946.

Missouri State Medical Association,
634 North Grand Boulevard,
Saint Louis, Missouri.

Gentlemen:

Pursuant to your request, an examination has been made of the accounts of the Missouri State Medical Association for the year 1945 and the following attached exhibits have been prepared therefrom:

Exhibit A. Balance Sheet.
Exhibit B. Statement of Income and Expenses.
Exhibit C. Statement of Committee and Meeting Expenses.
Exhibit D. Dues Receivable and Membership by Counties.

SCOPE OF EXAMINATION

The Balance Sheet at December 31, 1945, and the Statement of Income and Expenses for the year 1945 have been examined. The review procedures employed such tests of the accounting records as were deemed necessary under the circumstances, without making a detailed audit of the transactions.

Cash in banks at December 31, 1945, as shown by the books was reconciled with the regular monthly bank statements and confirmation letters received direct from the depositaries. The petty cash fund of $25.00 and the United States Savings Bonds in the amount of $20,000.00 were verified by physical inspection. Recorded cash receipts, consisting of dues, rentals and JOURNAL income, were traced in total into the bank account as deposits. Paid cheques, purchase invoices and other data on file were seen in substantiation of the disbursements for the year. Selective tests were made of the income and expense accounts for the period. It was noted that complimentary advertisements are occasionally used to complete a page for publication purposes.

STATEMENT OF INCOME AND EXPENSES

The financial result of the Association's activities for the year 1945 as set forth in Exhibit B, was an excess of income over expenses in the sum of $11,844.92 after provision for all ascertained expenses. It should be noted that the books of account are maintained on the accrual basis for all accounts except members' dues which are taken into income on a cash basis as collected regardless of the period covered by the dues paid. A comparative summary of the income and expenses for the past three years follows:

Particulars	Year 1945	Year 1944	Year 1943
Income	$56,808.30	$50,556.27	$37,579.66
Expenses	44,963.38	41,274.70	32,853.08
Excess of income over expenses	$11,844.92	$ 9,281.57	$ 4,726.58

BALANCE SHEET

Exhibit A presents the asset and liability accounts of the Association at December 31, 1945, and discloses a sound financial position. Comments follow on the more important Balance Sheet accounts not heretofore discussed.

Accounts receivable from advertisers in the sum of $1,250.80 constitute current December charges payable in January 1946.

Unpaid members' dues in the sum of $278.00, offset by a reserve account in a like sum, represent 1945 dues which were paid in January 1946. Other delinquent dues were charged off and the individuals dropped from membership in accordance with the by-laws. A summary of dues receivable and membership by counties is set forth in Exhibit D.

A demand note receivable from the Missouri Medical Service, in the sum of $5,000.00 without interest, was presented for inspection.

Furniture and fixtures are stated in the fixed sum of $1,000.00; purchases during the year having been charged to expenses in lieu of depreciation.

The records were carefully reviewed for liabilities at December 31, 1945, and it is believed that all current liabilities are included in the Balance Sheet. A contingent liability in the sum of $1,800.00 exists in connection with six malpractice suits reported pending against members. The Association may be required to furnish assistance in an amount not to exceed $300.00 in each case under the provisions of its by-laws.

GENERAL

Insurance policies in force at the close of the year are listed hereunder:

Insured	Type of Coverage	Amount
Furniture and Fixtures	Fire	$ 2,000.00
Treasurer	Fidelity Bond	20,000.00
Secretary	Fidelity Bond	1,000.00
Executive Secretary	Fidelity Bond	1,000.00
Employee	Life-Endowment Policy with Disability Benefits (Cash value $1,147.30)	12,000.00

The fidelity bond on the Treasurer has been decreased from $50,000.00 to $20,000.00 during the past year.

The records of the Association have been well maintained during the year 1945 in conformity with generally accepted accounting principles applied on a basis consistent with that used in the preceding period.

Yours very truly,
R. A. LENNERTSON,
Certified Public Accountant.

EXHIBIT A

Missouri State Medical Association
December 31, 1945

BALANCE SHEET

Assets

Cash:		
Mercantile-Commerce Bank and Trust Company (Treasurer's Account)	$21,265.19	
Mercantile-Commerce National Bank (Secretary's Account)	358.68	
Petty Cash Fund	25.00	$21,648.87
U. S. Savings Bond Series G		20,000.00
Accounts Receivable:		
Advertisers	$ 1,250.80	
Members' Dues	278.00	1,528.80
Note Receivable—Due on Demand		5,000.00
Furniture and Fixtures		1,000.00
Prepaid Expense:		
Advance for Traveling Expenses		143.83
		$49,321.50

Liabilities

Accounts Payable:		
Supplies and Expenses	$ 1,406.38	
Federal Withholding Tax	514.00	$ 1,920.38
Deferred Credit to Income:		
Advance Payments by Exhibitors	$ 1,460.25	
Advance Payment by Advertiser	51.00	1,511.25
Contingent Liability to Members on Six Malpractice Suits—$1,800.00		.....
Reserve for Uncollected Dues		278.00
Reserve for Future Activities:		
Balance January 1, 1945	$33,766.95	
Add: Excess of Income Over Expenses for the Year 1945 Per Exhibit B	11,844.92	45,611.87
		$49,321.50

EXHIBIT B

Missouri State Medical Association
Statement of Income and Expenses for the Year 1945

Particulars	General Activities	JOURNAL Publication	Together
INCOME:			
Dues received (includes $1.00 per member annually for THE JOURNAL)	$30,682.00	$ 2,219.00	$32,901.00
Rent from Sub-tenant (office space)	540.00		540.00
Interest on U. S. Savings Bonds	250.00		250.00
Subscriptions to THE JOURNAL —nonmembers		63.00	63.00
Advertising Space—THE JOURNAL		23,054.30	23,054.30
Total Income	$31,472.00	$25,336.30	$56,808.30
EXPENSES:			
Officers' Salaries	$ 3,033.00	$ 1,517.00	$ 4,550.00
Office Salaries	5,665.30	2,832.63	8,497.93
Office Rent and Light	1,827.75		1,827.75
Postage	197.18	377.24	574.42
Stationery, Printing and Office Supplies	1,119.99		1,119.99
Directories and Clipping Service	268.39		268.39
Telephone and Telegraph	960.18		960.18
Insurance—General	60.00		60.00
Employee's Retirement Insurance	915.36		915.36
Fees, Taxes and General Expenses	561.44		561.44
Traveling Expenses	424.01		424.01
Committee and Meeting Expenses (Exhibit C)	12,054.79		12,054.79
Equipment Purchases and Repairs in Lieu of Depreciation	901.12		901.12
THE JOURNAL—Paper, Printing, Mailing, etc.		10,455.25	10,455.25
Cash Discounts to Advertisers		232.78	232.78

Commissions on Journal Advertising		1,559.97	1,559.97
Total Expenses	$27,988.51	$16,974.87	$44,963.38
Net Income for the Period	$ 3,483.49	$ 8.361.43	$11,844.92

Exhibit C

Missouri State Medical Association
Statement of Committee and Meeting Expenses for the Year 1945

Annual Session Preliminary Expenses (meeting cancelled)		$ 105.36
Council meetings	$2,561.58	
Councilors' expenses	1,626.38	
Delegates to A. M. A.	284.80	
Women's Auxiliary	553.84	5,026.60
Medical Economics	$ 38.76	
Postgraduate Instruction	64.22	
Prepayment Medical Plan (Refund of prior year's expenses)	(424.98)	
Public Policy and Relations	7,244.83	6,922.83
Total		$12,054.79

Exhibit D

Missouri State Medical Association
Dues Receivable and Membership by Counties
December 31, 1945

Counties	MEMBERSHIP Total	Junior	Active	Honor	1945 Dues Paid Jan. 1946	Pre-paid Dues
Andrew	7		7			
Audrain	12		10	2		
Barry-Lawrence-Stone	30		28	2		
Barton	3		3			$ 15
Bates	10		9	1		15
Benton	3		3			
Boone	48		44	4		
Buchanan	101		80	21		15
Butler	17		15	2		
Caldwell-Livingston	12		12			
Callaway	15		10	5		
Camden	2		2			30
Cape Girardeau	35		35			285
Carroll	5		5			
Carter-Shannon	5		5			
Cass	13		11	2		
Chariton	16		7	9		105
Christian	5		4	1		
Clay	24		24			150
Clinton	8		8			
Cole	28		28			
Cooper	12		12			
Dallas-Hickory-Polk	10		9	1		
DeKalb	2		2			
Dent	6	1	5			
Dunklin	21		18	3		
Franklin	24		24			
Greene	105		97	8		
Grundy-Davies	16		13	3		
Harrison	6		6			
Henry	17		15	2		
Holt	6		5	1		
Howard	6		6			
Howell-Oregon-Texas	17		16	1		
Jackson	583	23	459	101		
Jasper	65		60	5		
Jefferson	15		13	2		
Johnson	14		14			
Laclede	10		9	1		
Lafayette	24		24			
Lewis-Clark-Scotland	7		7			15
Lincoln	7		6	1		
Linn	7		6	1		
Macon	6		6			
Marion-Ralls	26		25	1		
Mercer	9	2	5	2		
Miller	5		5			75
Mississippi	8		7	1		
Moniteau	6		6			
Montgomery	6		6			30
Morgan	3		3			45
New Madrid	6		6			
Newton	14		14			
Nodaway-Atchison-Gentry-Worth	25		23	2	$ 15	
North Central	23		21	2		
Pemiscot	15		15			
Perry	5		5			
Pettis	30		27	3		

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Merle Q. Howard, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.

Arthur J. Patek, M.D.

G. H. Schroeder,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



Phelps-Crawford	18		15	3		
Pike	11		9	2		
Platte	8		7	1		
Pulaski	3		3			
Randolph-Monroe	22		21	1		
Ray	8		8			
St. Charles	21		21			
St. Francis-Iron-Madison-Washington-Reynolds	39		36	3		
Ste. Genevieve	5		5			75
St. Louis City	1221	100	1068	53	263	111
St. Louis County	235	7	216	12		45
Saline	22	1	20	1		
Scott	13		13			150
Shelby	6		5	1		
Stoddard	5		5			
Taney	1		1			
Vernon-Cedar	23		17	6		
Webster	2		2			
Wright-Douglas	9		6	3		
Totals	3238	134	2828	276	$278	$1161

CONSTRUCTIVE PROGRAM OF A. M. A. FOR IMPROVEMENT OF MEDICAL CARE

The Board of Trustees of the American Medical Association and the Council on Medical Service of the American Medical Association at a meeting Feb. 16 in Chicago have taken a long step toward protection of the American people against the costs of sickness through participation in a voluntary prepayment sickness plan now developed under the authority of the American Medical Association.

The fundamental step in the development of this plan was the establishment of standards of acceptance for medical care plans which have the approval of the Council on Medical Service of the American Medical Association. Any plan which meets the standards of the Council will be entitled to display the seal of acceptance of the American Medical Association on its policies and on all of its announcements and promotional material. In order to qualify for acceptance, the prepayment plan must have the approval of the state or county medical society in the area in which it operates. The medical profession in the area must assume responsibility for the medical services included in the benefits. Plans must provide free choice of a qualified doctor of medicine and maintain the personal, confidential relationship between patient and physician. The plans must be organized and operated to provide the greatest possible benefits in medical care to the subscriber.

Medical care plans may be in terms of either cash indemnity or service units, with the understanding that benefits paid in cash are to be used to assist in paying the costs incurred for medical service. The standards also include provisions relative to the actuarial data that are required, systems of accounting, supervision by appropriate state authorities and periodic checking and reporting of the progress of the plan to the Council.

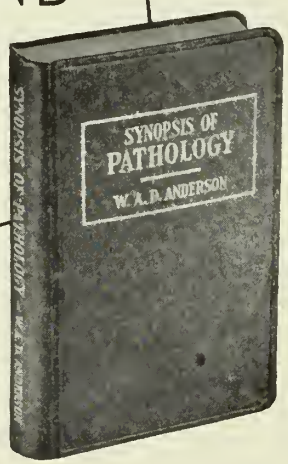
Coincidentally with the announcement of these standards of acceptance, there was organized, as a voluntary federation, an organization known as Associated Medical Care Plans, Inc. This independent association will include as members all plans that meet the minimum standard of the Council on Medical Service of the American Medical Association. The Associated Medical Care Plans will undertake to establish coordination and reciprocity among all of these plans so as to permit transference of subscribers from one plan to another and use of the benefits in any state in which a subscriber happens to be located. Under this method great industrial organizations with plants in various portions of the United States will be able to secure coverage for all of their employees. Moreover, it will be possible for the Veterans Administration, welfare and industrial groups as well as government agencies, to provide coverage for the people in any given area through a system of national enrollment. In addition, the Associated Medical Care Plans, Inc., will undertake research and the compilation of statistics on medical care, provide consultation and information services based on the records of existing plans and engage in a great campaign of public education as to the medical service plan movement under the auspices of state and county medical societies.

The Board of Trustees of the American Medical Association also announced the establishment under its Council on Medical Service of a Division of Prepayment Medical Care Plans with a director and a staff who will administer the activities of the Council on Medical Service related to the promotion and development of medical care plans in all of the states.

In announcing its proposals for a nation-wide provision of sickness insurance on a mutual nonprofit basis, the Association through its President and the Board of Trustees authorizes the publication of its complete health program with the ten points, which include the development of services in the field of preventive medicine, maternal and child health, voluntary prepayment plans for protection against the costs of sickness, compensation for loss of wages due to illness, the care of the veteran and the development of a high standard of housing, nutrition, clothing and recreation. The American Medical Association last June through its Board of Trustees and Council on Medical Service announced a 14-point program to improve the health and medical care situation in the United States. In October 1945, the interpretation of these 14 points and methods of implementation were adopted by the Council on Medical Service. In December 1945, the House of Delegates approved the whole program, suggested its rearrangement and directed the Board of Trustees to keep the program constantly up to date so that it will stay at least even with and, if possible, a step ahead of the needs of the public.

With this in mind the Board of Trustees has adopted a restatement of the 14 point program, which clarifies still further the position of the American Medical Association on some of these points and brings into the program more definitely such matters as maternal and child welfare, medical research, the medical care of the veteran and the part to be played by the voluntary health agencies.

New
SECOND
Edition



Anderson's SYNOPSIS of PATHOLOGY

by **W. A. D. ANDERSON, M.A., M.D., F.A.C.S.** Professor of Pathology and Bacteriology, Marquette University School of Medicine; Pathologist, St. Joseph's Hospital, Milwaukee, Wisconsin. About 730 pages, 327 illustrations, 15 color plates. Price, about $6.00.

READY THIS MONTH

Order Now!

For this new second edition, the author has revised carefully, considering all chapters, and bringing his material completely up to date. Seventy-four new illustrations have been added, together with four new color plates.

Throughout, greater emphasis has been given to "tropical diseases" and conditions important in war medicine. The chapters dealing with viral, rickettsial, spirochetal, mycotic, protozoal, and helminthic infections have been enlarged and made more inclusive, and other subjects, such as epidemic hepatitis and blast injuries, have been given attention. The chapters dealing with inflammation, the lung, and the nervous system also have received extensive revision.

THE C. V. MOSBY COMPANY MJ 4/46
3207 Washington Boulevard
St. Louis 3, Missouri

Gentlemen: Reserve my copy of the new 2nd Edition Anderson's
SYNOPSIS OF PATHOLOGY, about $6.00
and send it to me as soon as it comes from the press.

.... Attached is my check. .... Charge my account.

Name .....

Address .....

This restatement follows:

National Health Program of the American Medical Association

1. The American Medical Association urges a minimum standard of nutrition, housing, clothing and recreation as fundamental to good health and as an objective to be achieved in any suitable health program. The responsibility for attainment of this standard should be placed as far as possible on the individual, but the application of community effort, compatible with the maintenance of free enterprise, should be encouraged with governmental aid where needed.

2. The provision of preventive medical services through professionally competent health departments with sufficient staff and equipment to meet community needs is recognized as essential in a health program. The principle of federal aid through provision of funds or personnel is recognized with the understanding that local areas shall control their own agencies as has been established in the field of education. Health departments should not assume the care of the sick as a function since administration of medical care under such auspices tends to a deterioration in the quality of the service rendered. Medical care to those unable to provide for themselves is best administered by local and private agencies with the aid of public funds when needed. This program for national health should include the administration of medical care including hospitalization to all those needing it but unable to pay, such medical care to be provided preferably by a physician of the patient's choice with funds provided by local agencies with the assistance of federal funds when necessary.

3. The procedures established by modern medicine for advice to the prospective mother and for adequate care in childbirth should be made available to all at a price that they can afford to pay. When local funds are lacking for the care of those unable to pay, federal aid should be supplied with funds administered through local or state agencies.

4. The child should have throughout infancy proper attention including scientific nutrition, immunization against preventable disease and other services included in infant welfare. Such services are best supplied by personal contact between the mother and the individual physician but may be provided through child care and infant welfare stations administered under local auspices with support by tax funds whenever the need can be shown.

5. The provision of health and diagnostic centers and hospitals necessary to community needs is an essential of good medical care. Such facilities are preferably supplied by local agencies, including the community, church and trade agencies which have been responsible for the fine development of facilities for medical care in most American communities up to this time. Where such facilities are unavailable and cannot be suppled through local or state agencies, the federal government may aid, preferably under a plan which requires that the need be shown and that the community prove its ability to maintain such institutions once they are established. (Hill-Burton bill.)

6. A program for medical care within the American system of individual initiative and freedom of enterprise includes the establishment of voluntary nonprofit prepayment plans for the costs of hospitalization to all veterans, such medical care to untary nonprofit prepayment plans for medical care (such as those developed by many state and county medical societies). The principles of such insurance contracts should be acceptable to the Council on Medical Service of the American Medical Association and to the authoritative bodies of state medical associations. The evolution of voluntary prepayment insurance against the costs of sickness admits also the utilization of private sickness insurance plans which comply with state regulatory statutes and meet the standards of the Council on Medical Service of the American Medical Association.

7. A program for national health should include the administration of medical care, including hospitalization to all veterans, such medical care to be provided preferably by a physician of the veteran's choice with payment by the Veterans Administration through a plan mutually agreed on between the state medical association and the Veterans Administration.

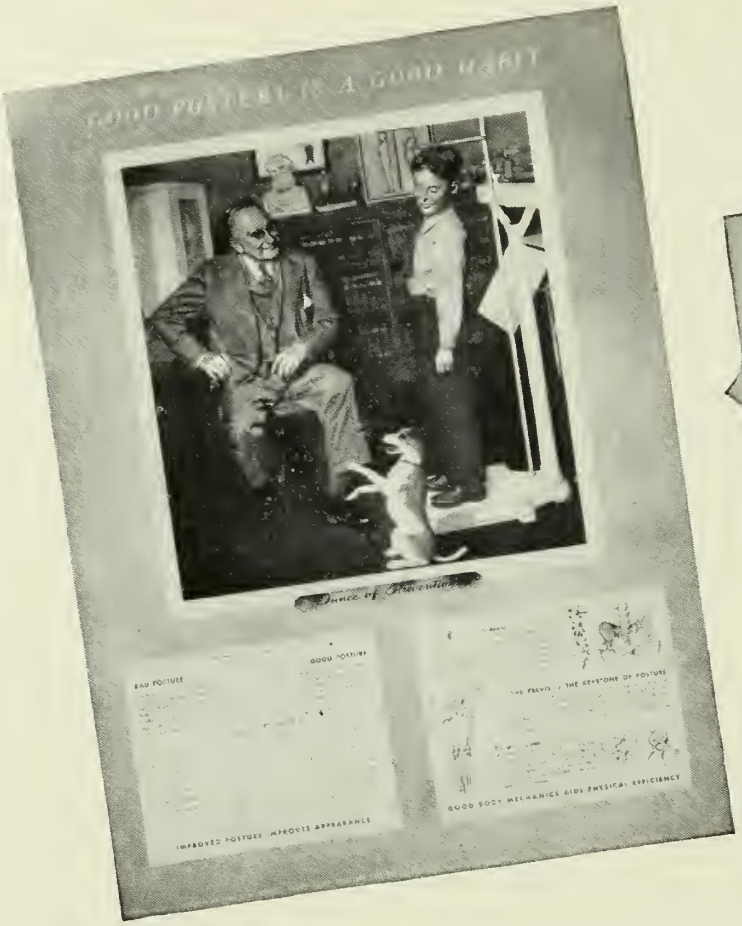
8. Research for the advancement of medical science is fundamental in any national health program. The inclusion of medical research in a National Science Foundation, such as proposed in pending federal legislation, is endorsed.

9. The services rendered by volunteer philanthropic health agencies such as the American Cancer Society, the National Tuberculosis Association, the National Foundation for Infantile Paralysis, Inc., and by philanthropic agencies such as the Commonwealth Fund and the Rockefeller Foundation, and similar bodies have been of vast benefit to the American people and are a natural outgrowth of the system of free enterprise and democracy that prevail in the United States. Their participation in a national health program should be encouraged and the growth of such agencies when properly administered should be commended.

10. Fundamental to the promotion of the public health and alleviation of illness are widespread education in the field of health and the widest possible dissemination of information regarding the prevention of disease and its treatment by authoritative agencies. Health education should be considered a necessary function of all departments of public health, medical associations and school authorities.

DRIED BLOOD PLASMA AVAILABLE THROUGH STATE BOARD OF HEALTH

The American Red Cross is furnishing dried blood plasma without charge for use in civilian medical practice. This material was prepared from blood collected by the American Red Cross for the



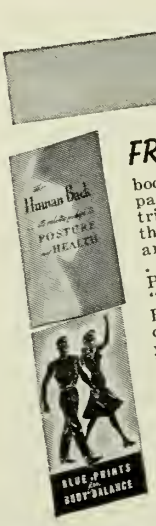
FULL COLOR HUMAN INTEREST GOOD POSTURE CHART expressly designed for physicians' offices, clinics and health centers. One of four in the new 1946 group added to the standard series widely distributed in schools, colleges, industrial plants, "Y's" and similar outlets. Write for your office copy of this educational chart on your professional letterhead. Samuel Higby Camp Institute for Better Posture, Empire State Building, New York 1, N. Y.

May 6 to 11 CAMP *8th Annual*
NATIONAL POSTURE WEEK

Once again National Posture Week takes its place on the calendar of public health education as it dramatizes the sound and ethical year-round program focusing the attention of the country on the significance of good posture as one element in good health and physical fitness.

Since no field is more subject to the dangers of "glamorizing" and lay "experting," the Institute in all its appeals stresses the necessity of "seeing your physician" as the first step in the improvement of poor body mechanics. Distribution of authentic literature through schools, colleges, medical and government bodies; and industrial, professional and civic public health groups is an important part of the program. Press and radio give serious coverage.

We hope to merit the continued cooperation of the medical profession during the first post-war observance of National Posture Week as peace presents its varied problems to those charged with maintaining the health of the nation.



FREE: These two heavily illustrated booklets on posture prepared especially for distribution by physicians to their patients. Their titles are: "The Human Back . . . its relationship to Posture and Health" and "Blue Prints for Body Balance." Ask for the quantity you need on your professional letterhead. THE SAMUEL HIGBY CAMP INSTITUTE FOR BETTER POSTURE, Empire State Bldg., New York 1, N. Y. Founded by S. H. Camp & Company, Jackson, Mich.

S. H. CAMP & COMPANY • Jackson, Mich. • *World's Largest Manufacturers of Scientific Supports*

Offices in NEW YORK • CHICAGO • WINDSOR, ONTARIO • LONDON, ENGLAND

Army and the Navy and has now been declared surplus to their needs. Supplies of this surplus plasma are provided to State Departments of Health by the American Red Cross for distribution to all physicians licensed to practice medicine and surgery and to all acceptable hospitals for use without charge for the product.

This plasma has been prepared by commercial firms licensed by the National Institute of Health in the standard Army-Navy packages from blood collected by the American Red Cross. There are two package sizes: one contains 250 cc. original plasma (17 gm. plasma protein), the other 500 cc. (34 gm. plasma protein).

The U. S. Pharmacopoeia gives the following:

"Citrated normal human plasma may be dispensed as liquid plasma, as frozen plasma or as dried plasma. Citrated normal plasma must be free from harmful substances detectable by animal inoculation, or by other means, and must not contain an excessive amount of preservative.

"Dried plasma—This is frozen plasma which has been dried from the frozen state under vacuum; it contains not more than 1 per cent moisture as determined by exposing a 1 to 2 gram sample, evenly distributed in a weighing bottle not less than 60 mm. in diameter in a vacuum desiccator at less than 1 mm. pressure over fresh phosphorus pentoxide at room temperature until the weight remains constant to the third decimal. It has a light yellow to deep cream color, is microscopically of a honeycomblike structure and shows no evidence of fusion.

"Regulations—The outside label must bear the name 'Citrated Normal Human Plasma' and indicate the volume of original normal human plasma represented in the container, the manufacturer's lot number of the plasma, the name, address, and the license number of the manufacturer and the date beyond which the quality of the contents may not be maintained."

The standard Army-Navy package consists of a sealed outer carton containing two metal cans. One holds the bottle of dried plasma, the other the distilled water for reconstitution of the plasma. The necessary tubing, needles, and other equipment required for reconstitution and administration of the plasma are also contained in the two metal cans. Instructions for reconstitution and administration are lithographed on the outside of the metal cans. Most of the packages also contain a report form to be filled out and mailed to the Army or Navy Medical Center. This report form may be used if desired for local or state studies but is not to be mailed to the Army or the Navy.

Important considerations in the use of dried plasma follow:

(a) Dried plasma must be used within three hours after being put into solution. If it were contaminated and allowed to stand several hours, sufficient bacterial growth could occur to produce fatal reactions.

(b) Dried plasma must not be restored to the liquid state with diluent which is warmer than 100 F. The reconstitution of dried plasma at a temperature appreciably higher than normal body temperature may produce changes in the plasma proteins which could give rise to serious or fatal reactions.

(c) Plasma must not be heated during administration. Such a procedure may also cause reactions through altering the plasma proteins. The control of temperature is too difficult to make it safe to attempt to bring the plasma to body temperature for administration, and, furthermore, clinical research has proven that it is unnecessary to warm any solution given intravenously.

(d) Dried plasma should be stored in a dry place where the temperature does not go below 35 F. or above 120 F. The bottle of diluent may freeze and break below 32 F. and the dried plasma proteins may be altered above 120 F.

INDICATIONS FOR TRANSFUSIONS*

Indication	Whole blood		Plasma or serum	
	Choice	State (fresh or preserved)	Choice	State (fresh liquid, stored liquid, frozen, dried)
Shock due to hemorrhage (traumatic shock)	First[1]	No preference	Second	No preference
Shock with hemoconcentration—Initial treatment (burns, crush syndrome and abdominal injuries)	Second	No preference	First	No preference
Hypoproteinemia	Second	No preference	First	No preference
Acute and chronic anemias	Imperative	No preference	Not indicated	
CO poisoning and methemoglobinemia	Imperative	No preference	Not indicated	
Immune therapy	Second	No preference	First	Fresh liquid, frozen, or dried
Deficiency of complement	Either	Fresh	Either	Fresh liquid, frozen, or dried
Deficiency of prothrombin	Either	Fresh	Either	Fresh liquid, frozen, or dried
Leukopenia and thrombocytopenia	Imperative	Fresh	Not indicated	
Hemophilia	First	Fresh	Second	Fresh liquid, frozen or dried

[1]The recommendation of first and second choice is made on the assumption that both blood and plasma are immediately available.

*Table adapted from OCD Technical Manual, "The Operation of a Hospital Transfusion Service."

Have You Patients WITH ANY OF THESE 25 CONDITIONS?



Spencer Abdominal Supporting Belt designed especially for this man. Grips pelvis firmly; effectively coordinates abdominal and back support.

Each Spencer Support is individually designed, cut and made *after* a description of the patient's body and posture has been recorded—and many measurements have been taken. This assures the doctor that the support will be correct from standpoint of body mechanics; that it will fit exactly, be perfectly comfortable.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop," or write direct to us.

Visceroptosis or Nephroptosis with Symptoms
Inoperable Hernia
Sacroiliac or Lumbosacral Sprain
Fractured Vertebrae
Protruding Disc
Spondylolisthesis
Spondylarthritis
Kyphosis, Lordosis, Scoliosis
Osteoporosis
Obesity
Antepartum-Postpartum
Breast Conditions Following:
Hysterectomy
Nephropexy
Nephrectomy
Cholecystectomy
Colostomy
Cesarean Section
Herniotomy
Spinal Surgery

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxon.

May We Send You Booklet?

Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

Name ..... M.D.

Street .....

City & State V-4-46

SPENCER *INDIVIDUALLY DESIGNED* SUPPORTS
Reg. U.S. Pat. Off.
For Abdomen, Back and Breasts

SOCIETY PROCEEDINGS

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

Pulaski County Medical Society

The Pulaski County Medical Society met on December 7 with Dr. Cyrus Mallette presiding. Members present were: Drs. Mallette and C. Miller. Application of Dr. R. W. Reed for membership was read and approved and Dr. Reed was voted a member.

The following officers for 1946 were elected: President, Dr. C. Mallette, Crocker; vice president, Dr. C. Miller, Waynesville; secretary-treasurer. Dr. R. W. Reed, Richland; delegate, Dr. R. W. Reed, Richland, and alternate, Dr. C. Miller, Waynesville.

Among the topics discussed were the deaths of Dr. Everett A. Oliver, Richland, and Dr. Adolphus Crider, Dixon.

The meeting was adjourned to reconvene at the call of the president.

R. W. Reed, M.D., Secretary.

Howell-Oregon-Texas-Wright-Douglas Counties Medical Society

The South Central Counties Medical Society held a dinner meeting at the Elliott Hotel in Mountain Grove on January 25, with the following physicians present: Drs. J. R. Mott, Hartville; A. Fuson, Mansfield; L. T. Van Noy, Norwood; R. A. Ryan, R. W. Denney, A. C. Ames and J. E. Lewis, Mountain Grove; Garrett Hogg, Cabool; L. M. Dillman, Houston; C. F. Callihan, Willow Springs, and Rollin H. Smith and E. C. Bohrer, West Plains.

Dr. J. R. Mott, president, called the meeting to order. Minutes of the last meeting were read and approved, also the treasurer's report.

Application for membership of Dr. Rollin H. Smith was presented and a letter from the secretary of the Bates County Medical Society was read certifying that he was a member in good standing, whereupon he was elected to membership without being referred to the board of censors.

The request of Dr. E. R. Bohrer, who has removed to Jefferson City, for a transfer was presented. It was granted and the secretary was instructed to send him a transfer to join the society there.

Dr. Hogg was appointed to work with the president and secretary as a Program Committee to try and secure speakers for the meetings.

Dr. Smith and Dr. Lewis, a hometown boy on a furlough from the Army, each gave a short talk on their experiences.

The meeting adjourned with the next meeting to be held February 15 at Mountain Grove.

A. C. Ames, M.D., Secretary.

MEETING OF FEBRUARY 15

The South Central Counties Medical Society held a dinner meeting at the Elliott Hotel, Mountain Grove, on February 15. The following members and visitors were present: Drs. J. R. Mott, Hartville; Leslie Randolph, Licking; R. W. Denny, R. A. Ryan and A. C. Ames, Mountain Grove; R. M. Norman, Ava; C. T. Callihan, Willow Springs; Garrett Hogg, Cabool; L. M. Dillman, Houston; E. C. Bohrer and Rollin H. Smith, West Plains; J. A. Tuson, Mansfield, and Guy D. Callaway and Ned White, Springfield.

The meeting was called to order by the president, Dr. J. R. Mott, and the minutes of the last meeting were read and approved.

Dr. Callaway read an interesting and practical paper on "Heart Disease in Pregnancy," which was followed

by a profitable discussion by Dr. White. An informal discussion followed.

A vote of thanks and appreciation was given the visitors.

The meeting adjourned with the next meeting to be held on March 15 at Cabool.

A. C. Ames, M.D., Secretary.

SIXTH COUNCILOR DISTRICT

R. W. KENNEDY, MARSHALL, COUNCILOR

Lafayette County Medical Society

Lafayette County Medical Society held their annual dinner meeting at the Victory Hotel. The following officers for 1946 were elected: President, Dr. E. S. Wallace, Lexington; president-elect, Dr. Ben Brasher, Lexington; secretary-treasurer, Dr. E. M. Moore, Jr., Higginsville; censor, Dr. W. A. Braecklein, Higginsville, and delegate, Dr. C. T. Ryland, Lexington.

E. M. Moore, Jr., M.D., Secretary.

Pettis County Medical Society

Pettis County Medical Society held a dinner meeting at the Hotel Bothwell, Sedalia. Dr. D. P. Dyer, president, presided. Drs. Ira Lockwood and Claude Hunt, Kansas City, spoke before the members and motion pictures illustrating their topics were shown. Dr. R. W. Kennedy, Councilor, was a guest at the meeting.

J. M. Rodeman, M.D., Secretary.

SECOND COUNCILOR DISTRICT

H. B. GOODRICH, HANNIBAL, COUNCILOR

Randolph-Monroe County Medical Society

Randolph-Monroe County Medical Society met at the Merchant's Hotel in Moberly. The following officers for 1946 were elected: President, Dr. J. William Fleming, Moberly; vice president, Dr. P. V. Dreyer, Huntsville; secretary-treasurer, Dr. F. W. Barnett, Paris, and censor, Dr. L. O. Nickell, Moberly. Dr. Barnett was chosen as Monroe's delegate with Dr. M. C. McMurry, Paris, as alternate. Randolph County's delegate will be Dr. F. L. McCormick, Moberly, with Dr. Thomas S. Fleming, Moberly, as alternate.

F. W. Barnett, M.D., Secretary.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for April and May, which all members are invited to attend, beginning at 1:00 p. m., follows:

April 3: Miscellaneous.
April 5: Gynecological and Genitourinary.
April 10: Skin.
April 12: Breast.
April 17: Gastrointestinal.
April 19: Cervix.
April 24: Skin.
April 26: Head and Neck.
May 1: Miscellaneous.
May 3: Gynecological and Genitourinary.
May 8: Skin.
May 10: Breast.
May 15: Gastrointestinal.
May 17: Cervix.
May 22: Skin.
May 24: Head and Neck.
May 29: Bone and Lymphomas.
May 31: Miscellaneous.

BOOK REVIEWS

Atlas of the Blood in Children. Kenneth D. Blackfan, M.D., Late Thomas Morgan Rotch Professor of Pediatrics, Harvard Medical School; Late Physician-in-chief, Infants' and Children's Hospitals, Boston; and Louis K. Diamond, M.D., Assistant Professor of Pediatrics, Harvard Medical School; Visiting Physician and Hematologist, Infants' and Children's Hospitals, Boston. With Illustrations by C. Merrill Leister, M.D., Associate Pediatrician, St. Luke's Hospital, Bethlehem, and Allentown General Hospital, Allentown, Pennsylvania. New York: The Commonwealth Fund. 1944. Price $12.00

This beautifully edited and illustrated atlas fills a need long felt in the field of hematology. The study of blood in diseases of children is a specialty and, although this subject is partially discussed in many textbooks, there has long been a place for just such a volume as this in medicine. The book has 320 pages, including an excellent index, and 70 full-page color illustrations which are among the best seen in any textbook and the artist, Dr. C. Merrill Leister, and the engraver are both to be highly commended.

The text is divided into five sections and at the end of the text there is a complete bibliography. Part I is devoted to a discussion of the blood cells, giving their origin, maturation and release from the hematopoietic organs. Part II covers the erythrocytes in anemia. It very properly begins with a description of the cytologic classification of the anemias, following which there is a complete description of the various anemias of childhood. The anemias are discussed according to a well-planned outline: general considerations, symptoms and signs, laboratory data, diagnosis, course and prognosis, and treatment. Following this are case histories of various patients. Anemias discussed are aplastic anemia, chronic hypoplastic anemia, anemia of prematurity, hemophilia, hemorrhagic disease of the newborn, the macrocytic hyperchromic anemias, iron deficiency anemia, splenomegaly with anemia, congestive splenomegaly, Mediterranean anemia, acute hemolytic anemia, congenital hemolytic anemia, sickle cell anemia and erythroblastosis fetalis or hemolytic anemia of the newborn. The discussion of erythroblastosis fetalis is completely up to date, giving the work of Levine et al full consideration in considering the etiology of this malady.

Part III is devoted to the leukocytes in disease. This is the only section of the book which might have been elaborated. The authors probably have assumed that the blood picture in infections is well-known and have not devoted as much space to this subject as to others. However, there is an excellent description of infectious moninucleosis and several pages are given over to a discussion of monocytosis. These authors follow the polyphyletic theory of cell formation and development and their discussion of monocytosis is along this line.

Part IV is entitled "Leukemia." The authors very properly take the stand that in certain leukemias, "the leukemic cell is often so primitive that, even with the aid of special staining methods, it may be difficult to characterize as either lymphoid or myeloid." For this reason they characterize these undifferentiated cells as "stem" cells, and the disease as "stem cell leukemia." This seems a very satisfactory manner of identifying a cell which at times defies identification.

The platelets are discussed in Part V. This chapter comprises the following: Thrombocytopenia—Primary Thrombocytopenic Purpura; and Thrombocytosis and Thrombocythemia.

This Atlas should be in use in all laboratories and

Estrogen Therapy

SATISFACTORY RESULTS WITH

Safety

Schieffelin BENZESTROL

(2, 4-di (p-hydraxyphenyl) -3-ethyl hexane)



Schieffelin BENZESTROL Tablets:
Potencies of 0.5, 1.0, 2.0 and 5.0 mg.
Bottles of 50, 100 and 1000.
Schieffelin BENZESTROL Solution:
Potency of 5.0 mg. per cc. in 10 cc.
Rubber Capped Multiple Dose Vials
Schieffelin BENZESTROL Vaginal Tablets:
Potency of 0.5 mg. Bottles of 100

Relief of menopausal and other symptoms arising from the hypo-ovarian state comes promptly and comfortably under the influence of Schieffelin BENZESTROL.

The exceptionally low incidence of untoward side effects, as well as the high degree of potency, merit the physician's confidence in Schieffelin BENZESTROL as a safe and satisfactory synthetic estrogen.

Literature and sample on request

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 COOPER SQUARE NEW YORK 3, N. Y.



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.
Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.
Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

should be in the libraries not only of pediatricians but also of other clinicians as well. It is a book that American medicine can well take pride in. R. B. H. G.

MEDICAL USES OF SOAP. A Symposium. C. Thomas Halberstadt, B.S.Ch.E.; Marion B. Sulzberger, M.D.; Theodore Cornbleet, M.D.; Lester Hollander, M.D.; C. Guy Lane, M.D.; Daniel J. Kooyman, Ph.D.; Rudolph L. Baer, M.D.; Carey McCord, M.D.; Morris Fishbein, M.D.; Irvin H. Blank, Ph.D. 41 Illustrations. Philadelphia: J. B. Lippincott Company. 1945. Price $3.00.

This is the only book in the English language to the reviewer's knowledge that discusses the medical uses of soap. Written by nine authorities on the subject, the book is very practical, up-to-date and complete.

Few physicians realize the importance of soap in the treatment of every day dermatoses. Eczema of the hands in the winter time is often caused by soap or washing powders. Some of the topics covered include the use of soap on the normal skin and hair, their use on the abnormal skin and hair, the effect of soap in shaving and shampooing, the indications and contraindications for soap, and the new detergents or "soapless" cleansers.

The book is intensely interesting and should be of value to every practicing physician. N. T.

PENICILLIN AND OTHER ANTIBIOTIC AGENTS. By Wallace E. Herrell, M.D., M.S., F.A.C.P. Assistant Professor of Medicine, The Mayo Foundation, University of Minnesota; Consultant in Medicine, Mayo Clinic, Rochester, Minnesota. Illustrated. Philadelphia: W. B. Saunders Company. 1945. Price $5.00.

This volume is largely dedicated to penicillin. Chiefly, it is a history of the discovery and method of preparation together with clinical application. Worked into the subject matter are case histories and pictorial exhibits illustrating the points made. The work is well done and very well organized. It is necessarily only an outline and a beginning because of the fragmentary knowledge we have of these agents at the present time. R. S. C.

M.D., Sc.D., F.A.C.P. Professor of Psychiatry and Chairman of the Department, Undergraduate School of Medicine, University of Pennsylvania; Psychiatrist to the Pennsylvania Hospital; Attending Psychiatrist, Psychopathic Division, Philadelphia General Hospital; Consultant to the Bureau of Medicine and Surgery, United States Navy; Consultant to the Secretary of War, A.A.F. Second Edition. 15 Illustrations. Philadelphia: J. B. Lippincott Company. 1944. Price $3.00

This second edition is even better than the first. Within these 219 pages, there is incorporated a vast amount of information about psychiatric problems. Etiology, classification, examinations, war psychiatry, war neuroses, and even nursing of the psychiatric patient are covered fairly well. Of course in a work of this size, many problems or topics are discussed briefly.

It will be noted that several pages are devoted to the neuroses, their diagnosis and treatment, which possibly by some might be considered as belonging entirely to the domain of neurology. Under etiology the writer points out the relationship of soma to the purely functional psychiatric states. He admits, as all know, that classification is complex. He starts out with the advisability of deciding whether the individual patient shall be classed as organic, toxic or functional. Some neuropsychiatrists would specify only organic and functional. The modern diagnosis and treatment of epilepsy is considered adequately. Many neuropsychiatrists would differ with the author relative to his remarks about the use of bromides. He points out that paraldehyde has been a much neglected drug in psychiatry. The brief chapter on mentally defective types is interesting. War neuropsychiatry is considered in two chapters.

A glossary of frequently encountered psychiatric words or phrases may be of much value to many readers.

This booklet should be especially attractive to the general practitioner who cannot or will not wade through a large volume. Furthermore, it can be used advantageously by nurses and social service workers. A. L. S.

GLOBAL EPIDEMIOLOGY. A Geography of Disease and Sanitation. By James Stevens Simmons, B.S., M.D., Ph.D., Dr. P.H., Sc.D. (Hon.), Brigadier General, United States Army; Chief Preventative Medicine Service. Office of The Surgeon General, U. S. Army; Tom F. Whayne, A.B., M.D., Lieutenant Colonel, M.C., A.U.S.; Formerly Director, Medical Intelligence Division, Preventive Medicine Service, Office of the Surgeon General, United States Army; Gaylord West Anderson, A.B.; M.D., Dr. P.H., Lieutenant Colonel, M.D.; A.U.S.; Director, Medical Intelligence Division, Preventive Medicine Service, Office of the Surgeon General, United States Army; Director, School of Public Health, University of Minnesota; Harold Maclachlan Horack, B.S., M.D. Major, M.D., A.U.S.; Chief, Dissemination Branch, Medical Intelligence Division, Preventive Medicine Service Office of the Surgeon General, United States Army; Instructor in Medicine, Duke University School of Medicine; and collaborators. Volume 1. Part One: India and the Far East. Part Two: The Pacific Area. Philadelphia: J. B. Lippincott Co. 1944.

The book is very valuable to all interested in the distribution of certain diseases throughout the area covered, in India—The Far East and the Pacific Area.

Of course, it has particular significance now and for some years to come after the war to those who have participated in the war in those areas and who have returned. The medical profession, as a whole, would do well to read this volume because it will give them some idea as to what the men are exposed in these various areas.

To the student in tropical diseases it will give a good picture of the general nature of the country in which these diseases are prevalent.

The bibliography at the end of each chapter has particular value to those who may want to go into more detail. The volume fits a need long felt whereby all this information could be gathered together concisely for those who wish to have the material condensed; and to those who want to go further, the bibliography is very good.

It is a valuable contribution to the geography and sanitation of diseases. J. F. B.

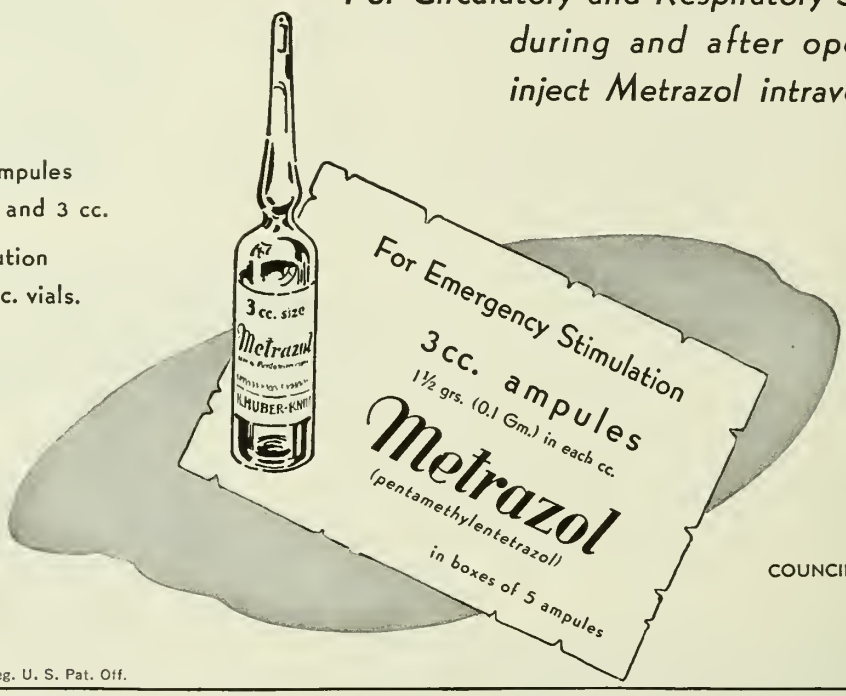
COMMON AILMENTS OF MAN. Edited by Morris Fishbein, M.D., Editor of Hygeia, The Health Magazine. New York: Garden City Publishing Company. 1945. Price $1.00.

This is a small volume of 177 pages edited by Morris Fishbein and printed for the purpose of public education on medical subjects.

The book consists of sixteen separate topics each discussed by a separate author in a manner so as to be easily understood by the layman. The topics discussed are colds, backache, headache, hemorrhoids, sinuses, allergy, arthritis, neuritis, varicose veins, anemia, nephritis, prostate gland, heart disease, athletes foot and constipation. J. J. C.

For Circulatory and Respiratory Support during and after operation inject Metrazol intravenously

Metrazol Ampules
1 cc. and 3 cc.
Sterile Solution
30 cc. vials.



COUNCIL ACCEPTED

Metrazol, T. M. reg. U. S. Pat. Off.

BILHUBER-KNOLL CORP. - ORANGE, NEW JERSEY

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

COMMERCIAL ANNOUNCEMENTS

TRYPTOPHANE

Now tryptophane, one of the essential amino acids, may be used in improving human and animal nutrition is described as "a challenge to modern research" in a review of published studies on this dietary supplement issued to the trade by the Special Chemicals Division, Winthrop Chemical Company, Inc., Rensselaer, N. Y.

Entitled "Recent Research on Tryptophane," the publication includes a bibliography of 68 papers dating back to 1906. Most of the studies referred to, however, are dated 1943 and 1944. The review concludes that "the potentialities of tryptophane are vast."

The publication describes tryptophane chemically as "alpha-amino-beta-3-indolepropionic acid" and as "one of the ten amino acids essential for the growth and maintenance of rats and one of the eight amino acids essential for the maintenance of nitrogen equilibrium in adult human beings."

Both animal and human requirements are covered. It is pointed out that man's need for some form of tryptophane has been definitely established, and at present there is general agreement that the requirement for optimum health of the adult human is approximately 1 to 1.25 grams per day.

"Cow's milk contains 47 mg. tryptophane per 100 cc.," the book continues, "human milk 31, and specially prepared babies' milk (in which cow's milk is diluted to 50 per cent of its protein content) only 24 mg. per 100 cc. It has been suggested that the formulae of infants' milk preparations might be improved by raising the tryptophane content up to at least 31 mg. per 100 cc. found in human milk."

Discussing protein hydrolysates, the publication points out that when casein and beef are hydrolyzed with acid the tryptophane is destroyed and must be restored.

It is noted that a positive correlation has been established between the extent of dental caries (tooth decay) and the rate of hydrolysis of starch by saliva. Of a series of amino acids tested for their ability to increase the hydrolysis time, *l*-tryptophane was by far the best among the other amino acids.

"It has been suggested," the publication states, "that the tryptophane be administered in tooth powder, in a gum or orally. In one case the starch hydrolysis time was increased from 25 minutes to 270 minutes as the result of consuming 1.4 grams *dl*-tryptophane during four days. After three weeks the hydrolysis rate returned to normal. Further work is in progress."

The review lists the occurrence of tryptophane in food proteins and discusses the role of this amino acid in the action of sulfa drugs on bacteria.

SCHERING CORPORATION APPOINTS VETERAN AS SOUTHERN DISTRICT SUPERVISOR

Perry L. Stucker, after nearly three years in the Army, has been appointed southern district supervisor for the Schering Corporation, manufacturers of endocrine and pharmaceutical preparations. Mr. Stucker will supervise Schering service in Oklahoma, Texas, Louisiana, Alabama, Georgia and Florida. He will be located in Atlanta. He is a graduate of Valparaiso University, College of Pharmacy. He came to Schering in 1941, as assistant sales manager, and left that position the following year to enter the Army.

Another appointment is that of Allan A. Miller to the position of metropolitan district supervisor of the Schering staff in New York. Mr. Miller has been covering the Manhattan and Brooklyn territories for Schering since 1942.

These appointments represent part of Schering's expansion program to facilitate supplying essential endocrine and pharmaceutical products to doctors and druggists.

Advertisement



From where I sit
by Joe Marsh

OUR TOWN HAS HEROES, TOO

Over at Thistle Ridge they're always boasting about their local heroes—ancestors in the Revolutionary War, congressmen, and an artist with pictures in the Metropolitan Museum.

Well, we've got our local heroes, too...

There was old Dr. Turner, who fought for years against the intolerance and bigotry that kept children from being vaccinated in our county.

And Deacon Follensby, who fought for free pews in the churches; Jess Hackney, who campaigned for teaching honest history in schools; Wedd Towers, who fought the encroachment of Prohibition and persuaded folks they wanted tolerance and moderation in place of a return to lawlessness.

You won't find monuments to these folks. But from where I sit, they're heroes in a cause that's pretty sacred in our town: the cause of freedom, tolerance and human dignity.

Joe Marsh

Copyright, 1946, United States Brewers Foundation



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASSN

PENICILLIN TABLETS FOR CIVILIAN USE NOW AVAILABLE IN MEXICO

Penicillin in tablets for civilian use went on sale in Mexico City on June 5 according to an announcement by H. S. Howard, President of Wyeth Incorporated of Philadelphia, one of the pioneer producers of the wonder drug in this country. It is the first time penicillin has been sold in tablet form for commercial purposes anywhere.

The tablet is a product of the research staff of the Wyeth Institute of Applied Biochemistry and Wyeth Incorporated. A detailed account of the research work which led to its development appeared recently in *The Journal of the American Medical Association,* the salient feature of which was the discussion of the successful use of sodium citrate as a buffer, guarding the penicillin against the destroying action of the gastric juices in the stomach until it had reached the intestines.

R. C. Hodgman, President of Wyeth-Stille, S.A., who is in this country after completing arrangements with the Mexican government for the distribution of the new tablet, said that the release of penicillin tablets for commercial consumption would greatly extend the use of the product in Mexico.

"Clinical tests show that oral penicillin of the tablet type, which can be administered to the patient without inconvenience of hospitalization, has a special application in Mexico," said Mr. Hodgman. "Not only has it proven effective when used in the usual way against venereal diseases and pneumonia, but it has been a real find in the treatment of tropical skin diseases common here, notably 'pinto' or 'pinta,' a spotted condition of the skin which is endemic in this part of America."

It was due to the desire to extend the use of penicillin and thereby attempt broader control of "pinta," explained Mr. Hodgman, that led the Mexican government to encourage production of penicillin in tablet form for early commercial use in this country. "Pinta," which in Spanish is called "mal de los pintos" is said to be caused by a genus of microorganisms of the order *Spirochaetales*—the Wasserman reaction is usually positive—and it is said to be transmitted by an unknown carrier. The disease is characterized by the presence of colored spots on the skin which may be white, coffee colored, blue, red or violet. (For details see *The Journal of the American Medical Association,* November 6, 1943.)

It was also largely through the efforts of its affiliate in the United States, Wyeth Incorporated, that Wyeth-Stille was supplied with the production equipment which made early release of the penicillin tablet possible.

The tablet is packed in vials containing five tablets of 20,000 units each. The vials contain a desiccant which absorbs moisture, allowing the penicillin to remain stable for six months or more, it is claimed.

Special Diet Relieves Fatigue Due to Sugar Deficiency in Blood

Fatigue and dizziness from hypoglycemia is effectively alleviated by dietary treatment with high proteins and complex carbohydrates.

Writing in the March 2 issue of *The Journal of the American Medical Association,* Major Samuel C. Karlan and Captain Clarence Cohn, of the Medical Corps, Army of the United States, say:

"Of 100 cases of fatigue and weakness studied, nine were believed to be primarily caused by hypoglycemia. The main complaints in all these cases were fatigue and dizziness. Unlike the fatigue in ordinary neurasthenia the fatigue suffered by these patients was not continuous but occurred at specified times. . . ."

"Diets high in proteins and carbohydrates of the more complex variety (starches rather than sugar) with frequent feedings prevented the symptoms in our cases."

a new liquid dosage form



Available in 6 fl. oz. bottles

Benzedrine Sulfate—formerly supplied in tablet form only—is now available also as:

BENZEDRINE SULFATE ELIXIR

Benzedrine Sulfate Elixir, N.N.R.—highly palatable, pleasant in appearance and easily tolerated—is identical in action with Benzedrine Sulfate Tablets. It is a preferred form of administration for invalids, convalescents, children and the aged. This new preparation contains Benzedrine Sulfate (racemic amphetamine sulfate, S.K.F.), 2.5 mg. per 5 cc. (1 teaspoonful); and has the same pharmaceutical properties as low-alcoholic, mildly acidic elixirs.

NOTE: When you next write for Benzedrine Sulfate, please remember to specify which of the two dosage forms you wish to prescribe—'Tablets' or 'Elixir'.

Smith, Kline & French Laboratories, *Philadelphia, Pa.*

Cook County Graduate School of Medicine
(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting May 6, May 20, and every two weeks thereafter.
Four Weeks Course in General Surgery starting May 6, June 3, July 15.
One Week Course Surgery Colon and Rectum starting April 29, June 10.
One Week Course Thoracic Surgery starting April 22, May 13.

GYNECOLOGY—Two Weeks Intensive Course starting May 20, June 17. One Week Personal Course in Vaginal Approach to Pelvic Surgery starting May 13, June 10.

OBSTETRICS—Two Weeks Intensive Course starting May 6 and June 3.

MEDICINE—Two Weeks Intensive Course starting May 13.

ELECTROCARDIOGRAPHY & HEART DISEASE—Two Weeks Intensive Course starting August 5.

GASTROSCOPY & GASTROENTEROLOGY—Two Weeks Personal Course June 3.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting May 20.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

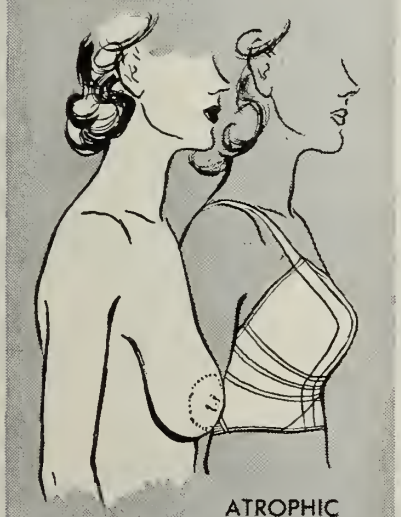
A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road *Medical Director* **Phone Winnetka 211**



PRENATAL



ATROPHIC



HYPERTROPHIC

LITERATURE FOR YOUR PATIENTS WILL BE MAILED ON REQUEST

HYGIENIC REMEDIAL SUPPORT

FOR SPECIFIC BREAST CONDITIONS

Lov-é Brassieres

IN MORE THAN 500 BUST-CUP-TORSO SIZE VARIATIONS

Lov-e's highly specialized line of therapeutic breast supports enables the physician to prescribe remedial support for the individual patient with the complete assurance that the correct model indicated will be fitted from the more than 500 bust-cup-torso size variations available.

Special corrective models have been designed for specific breast conditions, such as, ptotic, atrophic, hypertrophic, prenatal, postnatal, amputation, and post-operative. Also available: sleeping brassieres, hospital binders, artificial breasts, anatomically designed muscle pads and maternity garter supports.

LOV-É PRODUCTS ARE EXPERTLY FITTED IN EXACT ACCORDANCE WITH THE PHYSICIAN'S PRESCRIPTION BY FACTORY-TRAINED LOV-É BRASSIERE TECHNICIANS

LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

MISCELLANEOUS ANNOUNCEMENTS

FOR SALE—Medical, surgical, obstetrical instruments. Also instrument bag. Address Box 137, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis

Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only



Your instructions faithfully executed. Qualified, courteous orthopoedic technicians.

•

THE W. E. ISLE COMPANY

ENTIRE SECOND FLOOR

1121 GRAND AVE.

KANSAS CITY, MO.

VICTOR 2350

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913

BUY VICTORY BONDS



THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. BRINSON, M.D.
Medical Director

•

WALTER R. WALLACE
Business Manager

The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.

S·I·M·I·L·A·C

Similar to human milk



★The name is never abbreviated; and the product is not like any other infant food—notwithstanding a confusing similarity of names.

The fat of Similac has a physical and chemical composition that permits a fat retention comparable to that of breast milk fat (Holt, Tidwell & Kirk, Acta Pediatrica, Vol. XVI, 1933) . . . In Similac the proteins are rendered soluble to a point approximating the soluble proteins in human milk . . . Similac, like breast milk, has a consistently ZERO curd tension . . . The salt balance of Similac is strikingly like that of human milk (C. W. Martin, M. D., New York State Journal of Medicine, Sept. 1, 1932). *No other substitute resembles breast milk in all of these respects.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO



A complete line for clinical laboratories devoted to all branches of chemistry, bacteriology, hematology, and parasitology. Tested and checked in our own clinical laboratories. Purity warranted. Our facilities assure prompt shipment of large or small orders. Inquiries invited.

COMPLETE CATALOG

and Medical Reference Guide

Reagents catalogued alphabetically—also according to subjects and techniques, plus medical reference guide. Catalog comprises full line blood testing sera including anti-Rh, anti-M and anti-N; also reagents for Wassermann, Kline, and Kahn tests. Write for your copy. FREE ON REQUEST.



GRADWOHL
LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death $25.00 weekly indemnity, accident and sickness	$ 8.00 quarterly
$10,000.00 accidental death $50.00 weekly indemnity, accident and sickness	$16.00 quarterly
$15,000.00 accidental death $75.00 weekly indemnity, accident and sickness	$24.00 quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION
43 years under the same management
400 First National Bank Building, OMAHA 2, NEBRASKA

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. **Kansas City, Mo.**

Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.



...for BABY

• We had your young patients in mind . . . the infant on a formula and the child who has difficulty taking capsules or tablets . . . when we developed these readily soluble, palatable *granules* of VITAMIN B COMPLEX—a preparation which lends itself to flexibility of dosage as required in pediatric practice.

• "BEMINAL" Granules may be added to the baby's formula, sprinkled on cereal, or dissolved in fruit juices, milk or any other liquid. Older children may prefer to take them dry.

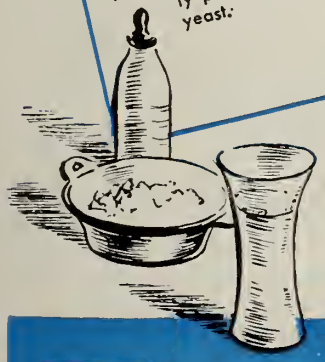
Available in bottles of 4 ounces.

Each heaping teaspoonful (4 Gm.) contains:

Thiomin Chloride	3.3 mg.
Riboflavin	2.0 mg.
Nicotinomide	10.0 mg.
Pyridoxine HCl	0.2 mg.
Pantothenic Acid	0.5 mg.

Dextrose . . . as an excipient

Together with other factors of the vitamin B complex as found in 165 mg. of specially processed brewer's yeast.



"BEMINAL" Granules, No. 925

REG. U. S. PAT. OFF.

Ayerst

AYERST, McKENNA & HARRISON LIMITED, 22 E. 40th Street, New York 16, N. Y.



UNSCENTED COSMETICS
FOR THE ALLERGIC PATIENT
AR-EX Cosmetics are the only complete line of unscented cosmetics regularly stocked by pharmacies. To be certain that your perfume sensitive patients do not get scented cosmetics, prescribe AR-EX Unscented Cosmetics. SEND FOR FREE FORMULARY.

℞ AR-EX

FREE FORMULARY
DR._____
ADDRESS_____
CITY_____
STATE_____

AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

BUY VICTORY BONDS

ZEMMER
Prescribe or Dispense
Zemmer Pharmaceuticals
A complete line of laboratory controlled ethical pharmaceuticals. Mo 4-46
Chemists to the Medical Profession for 44 years.
The Zemmer Company Oakland Station Pittsburgh 13, Pa.

THE MARY E. POGUE SCHOOL
For Retarded or Exceptional Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

51 Geneva Road Wheaton, Illinois Phone Wheaton 66



Most DEPENDABLE Method

The combined use of an occlusive diaphragm and vaginal jelly remains, in the published opinions of competent clinicians, the most dependable method of conception control.

Dickinson[1] has long held that the use of jellies alone cannot be relied upon for complete protection. It is noteworthy that in the series of patients studied by Eastman and Scott[2], an occlusive diaphragm was employed in conjunction with a spermicidal jelly for effective results. Warner[3], in a carefully controlled study of 500 patients, emphasized the value of a diaphragm.

In view of the preponderant clinical evidence in its favor, we suggest that physicians will afford their patients a high degree of protection by prescribing the diaphragm and jelly technique.

You assure quality when you specify a product bearing the "RAMSES"* trademark.

1. Dickinson, R. L.: Techniques of Conception Control. Baltimore, Williams and Wilkins Co., 1942.
2. Eastman, N. J., and Scott, A. B.: Human Fertility 9:33 (June) 1944.
3. Warner, M. P.: J. A. M. A. 115:279 (July 27) 1940.

gynecological division

JULIUS SCHMID, INC.

Quality First Since 1883

423 West 55 Street New York 19, N. Y.

A MARK OF Ramses DEPENDABILITY

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

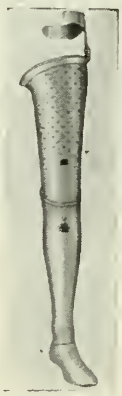
Our **ALCOHOLIC** treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101



HANGER

(Patented)

HIP CONTROL LEG

DURALUMIN AND WILLOW LIMBS
MECHANICAL ARMS
TRUSSES - CANES
CRUTCHES - INVALID CHAIRS

Illustrated Catalog On Request

J. E. HANGER, INC.

1912 Olive St.
Phone: Central 1088
St. Louis 3, Mo.

BUY VICTORY BONDS

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

INDEX TO ADVERTISERS

Abbott Laboratories 291
Ar-Ex Cosmetics, Inc. 288
Ayerst, McKenna & Harrison, Ltd. 287

Bilhuber-Knoll Corp. 278
Borden Co. 238
Burroughs Wellcome & Co. 256

Camel Cigarettes 235
Camp, S. H. & Co. 272
Ciba ..... Insert
Cook County Graduate School of Medicine 282

Faith Hospital 284

Glenwood Sanatorium 276
Gradwohl School of Laboratory Technique 286

Hamilton-Schmidt Surgical Co. 288
Hanger, J. E., Inc. 290

Isle, W. E., Co. 284

Lilly, Eli and Co. 244
Lilly, Eli and Co. ..... Insert
Lov-E Brassiere Co. 283

M & R Dietetic Laboratories, Inc. 285
Major Clinic Association 233
Mead Johnson & Company 292
Medical Protective Co. 266
Milwaukee Sanitarium 268
Miscellaneous Announcements 284
Mosby, C. V. Co. 270
Mullen Ambulance Co. 284

National Pathological Laboratories 282
Norbury Sanatorium 278
North Shore Health Resort 282

Parke, Davis & Company 230, 231
Philip Morris & Company 243
Physicians Casualty Association 286
Pogue, Mary E., School 288
Producers Creamery Company 280

Quincy X-ray & Radium Laboratories 288

Ralph Sanitarium 286
Robinson Clinic 290

Schenley Laboratories 237
Schering Corporation 241
Schieffelin & Company 276
Schmid, Julius, Inc. 289
Searle, G. D. & Co. 255
Smith-Dorsey Co. 264
Smith, Kline & French Laboratories 281
Spencer, Incorporated 274
Squibb, E. R. & Sons 239
Stokes Sanitarium 290

United-Rexall Drug Co. 240
Upjohn Company 232
U. S. Brewers Foundation 279
U. S. Standard Products 242

Wallace Sanitarium 284
Winthrop Chemical Co. 236
Worrell, Dorothy 284
Wyeth, Incorporated 262

Zemmer Company 288



"'Tis no trifle, though it small appear"

Even though it might be almost microscopic in size, the removal of a foreign particle in the eye can be a long and trying ordeal for both patient and physician. By instilling a few drops of Butyn Sulfate 2% Solution in the eye you can provide quick relief, and sufficient anesthesia for these simpler operations *within one minute.* ● The anesthesia produced by Butyn Sulfate is more rapid, more profound and more prolonged than that of cocaine. It does not soften the corneal epithelium, seldom dilates the pupil, does not affect the vessels, accommodation, or ocular tension—neither does it dry the conjunctiva. It has also been found useful for nose and throat work. Solutions of this widely-used product are stable and are not decomposed by boiling. ● Why not make it a point to keep Butyn Sulfate 2% Solution on hand at all times for routine as well as possible emergency use. It may be obtained from your pharmacy in 1-ounce dropper bottles of 2-percent solution; in vials of 10 and 100 3-grain tablets for making solutions; and in 5-gram and 1-ounce bottles of powder. Federal Narcotic blanks are not required for its purchase. ABBOTT LABORATORIES, North Chicago, Illinois.

Butyn Sulfate
REG. U. S. PAT. OFF.
2% SOLUTION

(p-ominobenzoyl-di-butyl-amino-propanol sulfote, Abbott)

Boston Medical Library
8 Fenway



THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 5

MAY, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Symptomatology of Acute Obstruction of the Ileum

Subacute Bacterial Endocarditis Clinically Cured With Large Doses of Penicillin by Continuous Intramuscular Drip

Syndrome Characteristic for Menopause, Ovarian Hypofunction and Castration in the Human Female

Barnes Hospital Case Report

BOSTON
MAY 20 1946
MEDICAL LIBRARY

EDITORIALS

Urgent
Howard B. Goodrich
Morris B. Simpson
Annual Session

(Contents Index Page 297)


YOUR HELP
1/2 Doz. 1 cc. Size No. 182
PARKE-DAVIS
THEELIN
IN OIL
EACH 1 CC. CONTAINS:
1 mg.
10,000 INTER. UNITS
A solution of the crystalline estrogenic substance, ketohydroxy estratriene in peanut oil.
PARKE, DAVIS & CO.
DETROIT, MICH., U.S.A.
PARKE, DAVIS & COMPANY
DETROIT 32 • MICHIGAN



In the distressing disturbances of the menopause, both natural and surgical, administration of the pure, crystalline estrogen **THEELIN** effectively "tides the patient over" this transitional period until endocrine readjustment occurs. It is also indicated in disorders due to estrogenic deficiency, such as vaginitis, kraurosis and pruritus vulvae.

Theelol Kapseals are available for treatment of the milder menopausal symptoms and for maintenance between injections. Theelin Suppositories, Vaginal, are particularly well adapted for the treatment of gonorrheal vaginitis.

THEELIN

Theelin in Oil is available in ampoules of 0.1, 0.2, 0.5 and 1.0 mg., in boxes of 6 and 50. Theelin, Aqueous Suspension, in 2 mg. ampoules, in boxes of 6 and 25. Theelol Kapseals, 0.24 mg., in bottles of 20, 100 and 250. Theelin Suppositories, Vaginal, 0.2 mg., in boxes of 6 and 50.

The Abbott Collection

PAINTINGS OF ARMY MEDICINE



Abbott Laboratories is proud to announce that the Abbott Collection Paintings of Army Medicine is to be shown to the public at the William Rockhill Nelson Gallery of Art, from May 5 through May 29. • Through the cooperation of the United States Army, twelve of America's distinguished artists, commissioned by Abbott Laboratories, were enabled to make this complete pictorial record of Army Medicine. Armed only with palette and brush the artists risked their lives voluntarily and repeatedly to cover every theater of war where American troops fought. • It is hoped that all friends of Abbott will find it possible to attend. Abbott Laboratories, North Chicago, Illinois.

WILLIAM ROCKHILL NELSON GALLERY OF ART ★ Kansas City ★ May 5—May 29

CONTENTS

Symptomatology of Acute Obstruction of the Ileum. E. L. Keyes, M.D., St. Louis 309

Subacute Bacterial Endocarditis Clinically Cured with Large Doses of Penicillin by Continuous Intramuscular Drip. L. H. Fuson, M.D., F.A.C.P., St. Joseph, Mo. 310

Syndrome Characteristic for Menopause, Ovarian Hypofunction and Castration in the Human Female. August A. Werner, M.D., St. Louis..... 311

Case Report of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 315

Abstracts and Digests—

Tuberculosis 322

Cancer Clinics at the Ellis Fischel State Cancer Hospital 324

Book Review 324, 343

Editorials—

Urgent 325

Howard B. Goodrich, M.D., President..... 325

Morris B. Simpson, M.D., President-Elect..... 327

Annual Session 327

News Notes 327

Physicians Returned From Military Service..... 329

Deaths 336

Legislation 339

Society Proceedings 342

Woman's Auxiliary 343

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Roger I. Lee, Boston.
President-Elect, Harrison H. Shoulders, Nashville.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Harry C. Lapp, Kansas City, Chairman (1946); Nathan A. Womack, St. Louis (1945); Ralph L. Thompson, St. Louis.

Postgraduate Course—Raymond Muether, St. Louis, Chairman (1945); David LeMone, Columbia (1946); G. T. Bloomer, St. Joseph (1946); Guy D. Calloway, Springfield (1947).

Publication—R. L. Thompson, St. Louis, Chairman; W. A. Bloom, Fayette; Robert Mueller, St. Louis; J. William Thompson, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis (1946); W. Merritt Ketcham, Kansas City (1947); Robert Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1945).

Defense—Charles E. Hyndman, St. Louis, Chairman (1945); O. B. Zeinert, St. Louis (1946); L. P. Forgrave, St. Joseph (1946); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1946); F. L. Kneibert, Poplar Bluff (1946); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947); James R. McVay, Kansas City (1945).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1946); Paul F. Cole, Springfield (1946); David S. Dann, Kansas City (1945).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1946); C. A. W. Zimmermann, Cape Girardeau (1946); W. F. Francka, Hannibal (1947); Ira H. Lockwood, Kansas City (1945).

Mental Health—B. Landis Elliott, Kansas City, Chairman (1946); Frank M. Grogan, St. Louis (1946); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947); Ralf Hanks, Nevada (1945).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1946); Buford G. Hamilton, Kansas City (1946); J. Milton Singleton, Kansas City (1947); H. B. Goodrich, Hannibal (1947); Joseph D. James, Springfield (1945).

Infant Care—U. J. Busiek, Springfield, Chairman (1945); Park J. White, St. Louis (1946); E. H. Schorer, Kansas City (1946); Damon O. Walthall, Kansas City (1945); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1946); Grayson Carroll, St. Louis (1946); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1945).

Constitution and By-Laws—O. S. Gilliland, Kansas City, Chairman (1947); B. Landis Elliott, Kansas City (1947); Joseph C. Peden, St. Louis (1946); G. T. Bloomer, St. Joseph (1946); H. L. Mantz, Kansas City (1945).

Fractures—Frank D. Dickson, Kansas City, Chairman (1946); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947); James D. Horton, Springfield (1945); J. R. Elliott, Kansas City (1945).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1946); Philip S. Luedde, St. Louis (1945); Robert S. Minton, St. Joseph (1946); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1946); Arthur W. Neilson, St. Louis (1946); W. S. Sewell, Springfield (1945); C. T. Ryland, Lexington (1947); Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1945); E. C. Funsch, St. Louis (1946); E. M. Fessenden, St. Louis (1947); R. R. Oglevie, Kansas City (1945); J. E. Castles, Kansas City (1946).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); C. A. W. Zimmermann, Cape Girardeau (1947); John L. Washburn, Versailles (1946); Frank L. Feierabend, Kansas City (1945); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; W. W. Buckingham, Kansas City; J. L. Mudd, St. Louis (1945).

Study of Cardiac Diseases—J. DeVoine Guyot, Jefferson City, Chairman (1945); A. Graham Asher, Kansas City (1946); Julius Jensen, St. Louis (1947); E. J. Schisler, St. Louis (1945); Horace W. Carle, St. Joseph (1946).

Postwar Planning—M. Pinson Neal, Columbia, Chairman; Robert Mueller, St. Louis; Ira H. Lockwood, Kansas City (1945).

Adviser to Woman's Auxiliary—H. L. Mantz, Kansas City.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, *Iron*, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.

IT IS
GOOD PRACTICE

. . . in judging the irritant properties of cigarette smoke . . . to base your evaluation on scientific research. In judging *research,* you *must* consider its *source**.

PHILIP MORRIS claims of superiority are based *not* on anonymous studies, but on research conducted only by competent and reliable authorities, research reported in leading journals in the medical field.

Clinical as well as laboratory tests have shown PHILIP MORRIS to be definitely and measurably less irritating to the sensitive tissues of the nose and throat. May we send you reprints of the studies?

PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.,
119 FIFTH AVENUE, N. Y.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1				
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	R. R. Cutler	Washington	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	D. L. Coffman	Fayette	J. W. Gardner	Glasgow
Jackson	7	Fred B. Kyger	Kansas City	Frank B. Leitz	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto		
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	H. S. Harris	Troy	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	W. Harry Barron	Frederickstown	John W. Hunt, Jr.	Leadwood
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



Calm climacteric

With the aid of Amniotin, a *natural* estrogen, the menopause can become the normal transition it should be. Vasomotor symptoms are controlled; real and imagined fears calmed; and a new feeling of well-being is born. A highly purified complex mixture of estrogens derived from natural sources, Amniotin has been used by physicians with safety and economy for 16 years. It is available in parenteral, oral and intravaginal forms, standardized in International Units.

Amniotin
TRADEMARK

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



With the recognition that avitaminoses may make operations more hazardous, imperil recovery, and delay convalescence,[1] a new member has been added to the surgical team—high potency vitamins. In the field of oral and parenteral vitamins, Upjohn offers a full range of high potency, supplemental and therapeutic formulas—convenient to administer and economical.

1. Virginia M. Monthly 72:240 (June) 1945.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS



ADHERENCE TO A STANDARD

There are few more important activities than the production of medicaments for the relief of human ills—and none wherein the implications of responsibility are more profound.

Mass production on the grand scale is not necessarily an assurance of clinical efficacy. Doing a few things superlatively well provides products which merit deserved confidence.

Favored with an environment almost ideal for the important work being performed; guided by a staff of forward-thinking scientists; operated by personnel whose undiverted interest occupies each day, U. S. Standard Products Company are producing a selected and therapeutically efficient list of distinguished essentials for the medical profession.

OUTSTANDING U. S. STANDARD BIOLOGICALS:

DIPHTHERIA TOXOID

•

TETANUS ANTITOXIN

•

SMALL POX VACCINE

•

TYPHOID VACCINE

Also a representative list of glandular products and pharmaceuticals.

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.



Demerol hydrochloride, administered from thirty to ninety minutes preoperatively, relieves much of the surgical patient's apprehension and reduces the amount of anesthetic agent required to obtain a given depth of narcosis. The average preoperative dose for adults is 100 mg. injected intramuscularly, which may be combined with scopolamine or a barbiturate to assure amnesia.

Compared with morphine, Demerol causes considerably less nausea and vomiting, and the danger of respiratory depression is greatly reduced. Unlike morphine, Demerol does not interfere with the cough reflex or the reflexes and size of the pupil. It does not cause constipation, and urinary retention is less than with morphine.

Postoperatively, Demerol is a reliable analgesic in the majority of cases, regardless of the type of surgery or the severity of pain. Patients in the older age group, in particular, respond most favorably to this drug. The average postoperative dose for adults varies from 50 to 100 mg., administered by intramuscular injection or by mouth.

Demerol

Trademark Reg. U. S. Pat. Off. & Canada

HYDROCHLORIDE

Brand of Meperidine Hydrochloride (Isonipecaine)

Synthetic **ANALGESIC • SPASMOLYTIC • SEDATIVE**

Available *for injection,* ampuls of 2 cc. (100 mg.), in boxes of 6, 25 and 100; also vials of 30 cc. (50 mg. per cubic centimeter). *For oral use* in tablets of 50 mg., bottles of 25, 100 and 1000.

WINTHROP

Subject to regulations of the Federal Bureau of Narcotics

WRITE FOR DETAILED LITERATURE

Winthrop **CHEMICAL COMPANY, INC.**

Pharmaceuticals of merit for the physician • New York 13, N. Y. • Windsor, Ont.

Take the burn out of SUNBURN



Recommend and prescribe Ciba's soothing unguent containing 1% Nupercaine . . .

NUPERCAINAL

Nupercainal gives the sunburned patient relief from torturing pain...relief that is long-lasting.

Extremely effective in burns, Nupercainal may also be used in the treatment of hemorrhoids, dermal pain and itching including pruritus ani and vulvae.

AVAILABLE: in tubes of 1 ounce with applicator and in jars of 1 pound.

Nupercainal—*Trade Mark Reg. U. S. Pat. Off.*

CIBA

CIBA PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

In Canada: **Ciba Company Ltd., Montreal**

PROTEIN

and the Dietary of Kidney Disease

The fundamental concept, that nutritional requirements must be met in disease as well as in health, holds especially true in renal disease.[1] Because many affections of the kidney involve excretion of blood albumin via the urine, the intake of protein in former years was curtailed in a futile attempt to stem the loss of protein.

Modern nutritional science has emphasized the necessity for maintaining nitrogen balance even in the face of the severe albuminuria characteristic of lipid nephrosis.[2] Not only must the basic nitrogen requirements of the organism be met, but the urinary loss must be compensated for as well.[3] Only when this adjustment of protein intake is made can the plasma albumin be restored to normal levels and the associated edema overcome.

Meat is an excellent source of protein in the management of nephritis and nephrosis, not only because of the high percentage of protein contained, but especially because its protein is of highest biologic quality, applicable for every protein need.

---

1 *Stare, F. J., and Thorn, G. W.: Protein Nutrition in Problems of Medical Interest, J.A.M.A. 127:1120 (April 28) 1945.*

2 *Stare, F. J., and Davidson, C. S.: Protein: Its Role in Human Nutrition; Introduction, J.A.M.A. 127:985 (April 14) 1945.*

3 *Anderson, G. K.: The Importance of Protein in Diet Therapy, J.Am.Dietet.A. 21:436 (July-August) 1945.*

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES

The Light that Never Fails!

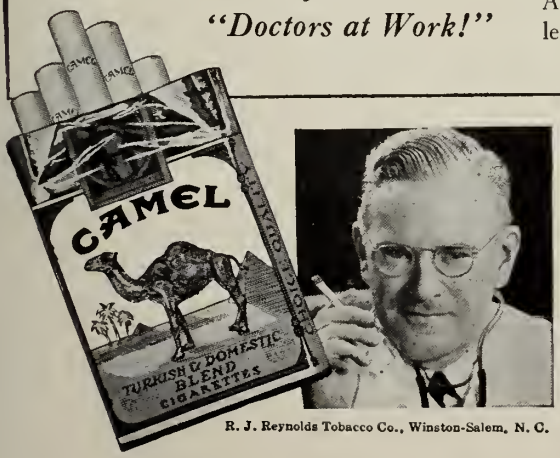


"Emergency Case!"

While the city sleeps, lights blaze in a hospital ward—they mean "Doctors at Work!"

He isn't interested in making speeches and taking bows on the magnificent job he does. He's just interested in doing that job with all the skill and selfless devotion he possesses.

His battle knows no lulls. But he asks no quarter. All this he knew—and accepted—when those proud letters "M.D." were first affixed to his name.



R. J. Reynolds Tobacco Co., Winston-Salem, N. C.

According to a recent independent nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette



the Mop-up

SCRUBBING the operative field with soap and water effectively eliminates most of the bacteria. But before the surgeon makes his incision, he must be certain that the last troublesome enemy is dispatched. Tincture 'Merthiolate' (Sodium Ethyl Mercuri Thiosalicylate, Lilly), 1:1,000, is especially qualified for the "mop-up" detail. When Tincture 'Merthiolate' is applied, many nonsporulating pathogenic organisms are given the *coup de grâce* on contact. Stragglers which dare to rise from a hair follicle or which fall on the operative field from the air are also exposed to the germicidal action of the film of 'Merthiolate' on the skin. The low toxicity of 'Merthiolate' and its compatibility with body fluids recommend it as a safe, reliable skin disinfectant. Tincture 'Merthiolate' is available in leading hospitals and pharmacies everywhere.

Lilly

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 | MAY, 1946 | NUMBER 5

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

SYMPTOMATOLOGY OF ACUTE OBSTRUCTION OF THE ILEUM

E. L. KEYES, M.D.
ST. LOUIS

The diagnosis of strangulation of the ileum in external herniae is easy. Hence, the abdominal symptoms of the condition are neglected; yet a knowledge of them may prove useful in differential diagnosis, for the symptoms are the same whether strangulation of the ileum originates externally or internally.

The abdominal symptoms may be illustrated by a characteristic case history. Strangulation of the ileum was found at operation and the gangrenous segment resected.

REPORT OF CASE

The patient was a man, aged 70, who was seen sixteen hours after onset of illness.

Chief Complaint.—The patient stated "I feel very bad and weak."

Present Illness.—The patient gave the following history: "I jumped a fence last night around 8:30 o'clock and came down hard. An hour later I felt guts (in the right inguinal hernia). I could not put them back. A little later when I was walking across the street I got a continual pain (in the hypogastrium). About 10:30 p. m. I went to the bathroom after taking soda. I wanted to see if I could make a passage to ease my pain. I thought maybe that would help. A little air passed but that was all and not enough to relieve me. In a minute the pains kept on just the same. I went to the bathroom again this morning but could not do anything except pass a little gas. At 6:00 a. m. I took some soda in hot water and vomited. I belched a lot but it did not relieve me. My bowels have not moved since the day before yesterday. I have not been to sleep yet."

Past History.—Right inguinal hernia for four years.

Physical Examination.—The patient appeared very sick and dehydrated. He lay on the right side suffering extreme pain for periods of about three minutes, then feeling partial relief for from three to five minutes. The tongue was very dry and the breath fetid. Inspection of the abdomen revealed moderate distention below the umbilicus with little or none above. Two loops of distended bowel could be seen in the right lower quadrant. There was tenderness in the right lower quadrant increasing toward McBurney's point. There was no muscle guard or rebound tenderness. A right inguinal hernia was strangulated.

Laboratory Examination.—Temperature was 99.2 F., pulse was 96, white blood count 15,000 with shift.

Operation.—A gangrenous loop of ileum was found strangulated in the right inguinal hernia. It was resected with primary anastomosis by the resident in surgery, Dr. M. Hara.

Result.—The patient made an uneventful recovery.

COMMENT

Jumping a fence was soon followed by irreducibility of the right inguinal hernia of this patient. Soon "a continual pain" began in the hypogastrium. Next he drank. Almost immediately he noticed a desire to defecate. Pain accompanied by this sensation persisted for nine hours respite the passage of gas. Then, for the first and only time, the patient vomited. The bowels had not moved for two days.

Operation, about eighteen hours after onset, revealed that these symptoms had been caused by gangrenous strangulation of a loop of ileum.

The important symptoms of acute obstruction of the ileum are the symptoms of onset, the symptoms prior to the time vomiting first occurs. The symptoms during these hours in most patients will be found remarkably similar to those of this patient.

Presented before the St. Louis Surgical Society, December 19, 1945.

From the Department of Surgery, Washington University School of Medicine.

These symptoms are:

1. Pain in the midline of the abdomen.

2. Persistence for hours of this pain, with no intervals of complete freedom from pain.

3. An accompanying sensation of gas stoppage.

The sensation of gas stoppage has been described in this publication on a previous occasion.[1] It is significant because it has been found, in my experience, consistently to accompany the initial pain of but two diseases, namely, acute obstruction of the ileum and acute appendicitis.

A knowledge of these points can facilitate the accurate diagnosis of acute conditions of the abdomen. Obviously, physical and laboratory findings are not to be neglected.

4952 Maryland Ave.

1. Keyes, E. L.: Diagnostic Features of the First Pain of Acute Appendicitis, J. Missouri M. A. 41:30-33, 1944.

SUBACUTE BACTERIAL ENDOCARDITIS CLINICALLY CURED WITH LARGE DOSES OF PENICILLIN BY CONTINUOUS INTRAMUSCULAR DRIP

L. H. FUSON, M.D., F.A.C.P.
ST. JOSEPH, MO.

REPORT OF A CASE

Mrs. C. K., aged 48, gave a past history of inflammatory rheumatism with cardiac involvement ten years previously. She was admitted to the hospital on June 1, 1944, showing a low grade fever and typical mitral stenosis murmur. The heart was well compensated. A blood culture grew a streptococcus, not viridans, but not otherwise classified.

The patient was given sulfamerazine for two weeks. During that time two blood cultures showed no growth. Her temperature dropped to normal. When the drug was discontinued fever recurred and blood culture became positive.

From June 16 to July 6, 1944, she was given 10,000 units of penicillin every three hours. The temperature remained normal during this time and blood culture on June 28 showed no growth. Two or three days after penicillin was discontinued a low grade fever began, the patient had small infarcts in the fingers and blood culture became positive again. On July 27, 40,000 units of penicillin were started by slow intravenous drip over an eight to ten hour period, and after a two hour rest the procedure was repeated. This was discontinued on August 4 because of an infarct to the brain. The patient was not entirely fever free during this period.

On August 5 the patient was started on 15 gr. of sulfadiazine every four hours; this was continued until she left the hospital on October 23. She was never entirely fever free during this period. When the drug was discontinued for twenty-four hours during this period, her temperature rose to 101 F.

The patient was readmitted to the hospital on November 6, 1944, in about the same condition in which she left. She had been taking sulfadiazine while at home. Her temperature rose to 100 F. in the evenings. On November 6 she developed a cough, rhinitis and temperature rose to 105 F. This condition was thought to have been an acute influenzal attack which was epidemic at that time.

On November 17 sulfadiazine was discontinued and she was started again on 20,000 units of penicillin every three hours and continued on this for ten days. Temperature dropped but never to normal during this period.

On December 1, three days after penicillin had been discontinued, her temperature rose to 102 F. and on December 2 a blood culture was positive. From December 2 to December 9 she was again given 20,000 units of penicillin every three hours and the temperature became normal by December 7. She was started on 15 gr. of sulfadiazine every four hours on December 9 and this was continued until January 6, 1945. Temperature remained normal until December 30, 1944. On January 6, 1945, she was started on 25,000 units of penicillin every three hours. Temperature dropped but was still not normal. On January 14 penicillin was discontinued and she was given 15 gr. of sulfadiazine every four hours. By January 21 temperature was elevated each day to 101 F. and 102 F., and after sulfadiazine was discontinued for three days blood culture was repeated and again found positive.

On February 6, 200,000 units of penicillin every twenty-four hours was started by continuous intramuscular drip. Temperature dropped to normal within twenty-four hours. On one day, February 19, temperature rose to 100 F. At that time 15 gr. of sulfadiazine every four hours was started as complementary to the penicillin.

On February 21 the daily dose of penicillin was increased to 300,000 units every twenty-four hours and so given until March 7. She had had by continous intramuscular drip 200,000 units of penicillin every twenty-four hours for two weeks, then 300,000 units every twenty-four hours for another two weeks, taking at the same time 15 gr. of sulfadiazine every four hours during the last two weeks. Following this there was never any more temperature deviation. The patient was allowed to sit up in a chair on March 18. She was gaining in weight. Sulfadiazine was continued until April 25. The patient was discharged from the hospital on May 7.

On January 23, 1946, the patient was clinically well.

During the time she was taking sulfadiazine, blood counts remained fairly constant throughout her period of observation.

Kirkpatrick Building.

SYNDROME CHARACTERISTIC FOR MENOPAUSE, OVARIAN HYPOFUNCTION AND CASTRATION IN THE HUMAN FEMALE

AUGUST A. WERNER, M.D.
ST. LOUIS

This clinical research is based upon a study of 53 castrates, 96 women in the menopause and 48 women having involutional melancholia, a total of 197 patients.

ETIOLOGY OF THE SYNDROME

Ovarian hypofunction may be due to pathologic conditions such as cystic degeneration or inflammatory processes in or adjacent to the ovaries, as salpingitis or appendicitis, which may cause degeneration in the glands. It may be secondary to constitutional disease processes as some anemias, tuberculosis or malignancies other than pelvic. Vitamin deficiency in the diet may cause it. It may be primary as in some cases of eunuchoidism with late development of the secondary sexual characteristics in which the ovaries may never attain full development and function. It may be secondary to anterior pituitary deficiency as in some types of infantilism, so-called bilobar-pituitary insufficiency, preadult or postadult. It may occur after partial castration when one ovary has been removed or only a small part of one ovary remains. It will be complete when both ovaries are removed unless there is accessory ovarian tissue. It always occurs at the climacteric.

SYMPTOMS ACCOMPANYING OVARIAN HYPOFUNCTION

The disturbances which accompany ovarian hypofunction may be divided into objective signs and subjective symptoms.

Objective Signs.—The objective signs are, first, various types of menstrual disorder occurring separately or with varying degrees of combination, such as irregularity, scantiness of flow with decreased duration and, finally, amenorrhea. Menorrhagia and metrorrhagia also occur at times but these two conditions are more apt to occur in women who are approaching the natural menopause than in those of younger age. In the castrate, of course, the amenorrhea usually follows the operation.

The second objective sign is the gonadal type of obesity characterized by a deposition of fat over the trochanters, mons veneris and adipose enlargement of the breasts. This type of obesity usually occurs in the eunuchoid woman and castrates after they reach the age of approximately 30 years. It has been my experience that the pituitary (shoulder and pelvic girdle) type of adiposity occurs more often in young women who have had bilobar-pituitary insufficiency in youth with secondary hypogonadism, and in women who have had apparently normal gonadal function until after some pregnancy when they gain weight rather rapidly, in some instances at an alarming rate. As women approach the age of 40 they tend toward the thyroid type of obesity combined with or superimposed upon the pituitary type. Other signs of ovarian hypofunction are atrophy of the genitals and loss of genital and axillary hair.

Subjective Symptoms.—The subjective symptoms accompanying ovarian hypofunction render the patient more uncomfortable than do the objective signs. They may be classified as (1) nervous, (2) circulatory and (3) general. A proper evaluation of their significance is necessary as these symptoms are frequently the chief basis of a diagnosis. That the reader may more easily recognize these symptoms, I will attempt to describe them as they have been presented by a large number of patients.

Nervous Symptoms.—(1) Subjective nervousness is an intense feeling of nervous tension. These patients state that they feel like screaming, or as though they might lose their mind. Many state that they feel jumpy, or that they feel trembly inside their body. In most instances, they do not have tremor but occasionally this nervousness may become so extreme as to cause some tremulousness.

(2) Excitability is a nervous state in which the persons respond to ordinary stimuli in an exaggerated manner. In this instance I refer especially to the psychic response. Unfavorable news, slight mishaps, arguments, all manner of little occurrences that would not disturb a normal individual cause quite a nervous and mental flurry.

(3) These people are very irritable and easily aggravated or excited to anger by deed or word. They are hard to please. Noises of playing children, the radio, almost anything stirs them to action. In fact, they need no special stimulus. They are simply hard to get along with. In many instances they acknowledge this condition but state that they cannot help being so.

(4) Headaches of various types and locations occur but are rarely migrainous. Migraine, when it occurs with endocrine disorders, is probably only initiated or aggravated by the glandular dysfunction. The headache may be described by the patient as a dull to severe ache, not neuralgic in type. It may occur irregularly or may be continuous. I have had patients with headaches lasting continuously for from thirty to forty days which were relieved by proper endocrine treatment. Their location may be temporal, frontal, vertex or occipital, with any combination of these. At times they may be pancranial.

The one type of headache which has almost specific diagnostic importance in hypoovarianism is the occipitocervical headache which radiates to the nape of the neck, at times over the upper scapular regions or down the spine. It is described as a severe dull combination of ache and pain which may be continuous for days. I found such headache present in 50 per cent of the castrates and in 37.5 per cent of menopause patients.

From the Department of Internal Medicine, St. Louis University School of Medicine.

(5) Among nervous symptoms may be classed psychic depression, commonly called "the blues." When in this state these patients have no special interest in ordinary activities. They cannot "cheer up." It is an effort to smile or laugh; they do not want company or care to enter into pleasurable entertainment. Frequently this depression is accompanied by crying for no reason at all. They state that they cannot prevent this. (This depression must not be confused with the apathy of hypothyroidism. Hypothyroid patients are dull and listless. They do not care for anything. They are not worried.) This condition if untreated or unimproved may progress to anxiety psychosis in which the patients feel ill at ease. They have a fear of impending danger which they cannot explain. They feel that something dreadful will happen to them, their loved ones or others. At times they imagine that someone is watching them or that they hear strange noises. Some paitents, especially in the menopause, develop persecutory delusions and some whose past life had been rather Bohemian develop an extreme religious outlook.

(6) Decreased memory and ability to concentrate are observed. They forget where they put things. They cannot remember, especially recent events. They cerebrate slowly. The mind seems hazy or fogged. If they read an article they cannot tell what they have read and frequently must reread it three or four times before it registers. This is found in hypoovarianism and hypothyroidism especially.

(7) Formication, a sensation as if ants or insects were crawling over the skin especially on the arms, back and body, is complained of frequently. There also may be prickling or tingling of the skin.

(8) A large majority of these patients complain of sleeping poorly. They may be restless, sleeping only for short intervals during the night. Some fall asleep quickly upon retiring only to awaken within a half hour and remain awake for varying lengths of time. Others do not sleep upon retiring until after midnight. Some complain that they sleep well until 2:00 or 3:00 a. m. and then remain awake until morning. This is known as insomnia.

Patients who do not sleep at night find themselves exhausted the next day and must sleep during the daytime. This desire to sleep during the daylight hours must not be confused with somnolence. True somnolence is a condition characterized by inability to remain awake either night or day. These people are sleepy most of the time. They sleep soundly all night and fall asleep when they sit down during the day. Patients have been known to fall asleep while driving automobiles and go into the ditch or strike objects or other cars and have been accused of being drunk, especially if injured and rendered unconscious. Somnolence is especially a symptom of hypothyroidism and insufficient secretion of the posterior lobe of the pituitary gland.

Circulatory Symptoms.—(1) Hot flushes are characterized by a sudden redness of the face and neck, upper chest and at times most of the body. This is akin to blushing and is due to dilation of the superficial capillaries of the skin. It is a very uncomfortable sensation, generally of short duration but may last a half hour or even longer if the statements of some patients are correct. Frequently this is described as a smothering sensation. It may be accompanied by vertigo and scotomata or tingling or prickling sensations over the head, neck and body. Occasionally, hot flushes alternate with or follow chilly sensations over the same area. Hot flushes may accompany disturbances of the cardiovascular system, especially arteriosclerosis with hypertension, but these conditions can be eliminated by proper diagnosis.

(2) Tachycardia, palpitation and dyspnea more than usual upon moderate effort without evident cardiac disease, nephritis or edema are complained of. (This group of symptoms accompanies fatigability, which probably should be included under general symptoms, but since they are so closely related they will be discussed together.)

These people complain of easy fatigability. Sweeping, ascending a flight of stairs, walking a block to the store, almost any moderate effort causes more fatigue than normally. With this they have mild to moderate tachycardia, palpitation and dyspnea. No organic lesion can be found to account for them. Probably they are due to a generalized decrease in muscular and vascular tonus. Patients frequently tell you that they are more tired upon arising in the morning than when they went to bed. This group of symptoms may follow infectious diseases and toxemias but these can be eliminated by proper history and examination. Again, infectious diseases and toxemias are frequently the basis of glandular dysfunction.

(3) Vertigo with change of position and no evident cardiovascular lesion is another very frequent symptom. It is generally more annoying than serious.

(4) Tinnitus occurs frequently without evident causative lesions.

(5) Scotomata as dark spots or silvery specks floating before the eyes are of common occurrence. Vertigo, tinnitus and scotomata often occur concurrently and of these, vertigo is the most frequent. When no causative lesion can be found to account for them and when they occur in conjunction with other endocrine syndromes they must be evaluated at their proper significance.

(6) Cold hands, feet and extremities are commonly found in hypofunction of the ovaries, thyroid, pituitary and adrenals.

(7) The pulse in hypofunction of the ovaries, thyroid, adrenals and pituitary is generally soft and may be of low tension. In hyperthyroidism and hyperadrenalism it is fast. In hypothyroidism it is slow. The pulse is so variable in endocrine disorders, depending upon age of the patient and other intercurrent factors, that further discussion of it will not be taken up here.

(8) Blood pressure, generally speaking, is low in glandular hypofunction and increased in hyperfunction.

General Symptoms.—(1) Lassitude and fatigability have been discussed.

(2) Constipation frequently is found in hypofunction of the thyroid and pituitary glands in which there is a relative vagotonia. Many of these patients complain of a gastric syndrome, characterized by distension and eructation after meals, with no organic lesions. This is probably secondary to subjective nervousness and constipation and usually disappears with proper sedation and elimination. While some cases of constipation may have a glandular basis, the vast majority probably are due to improper habits, diet or gastrointestinal disorders.

(3) Vague pains are complained of and their location may be as legion as the distribution of the sensory nerves. One of the most common of these is a boring ache which may be located at the inferior angle of either scapula, interscapular or at the base of the spine of the scapulae. Again, it may be anywhere along the spine, especially in the lumbosacral region. The legs may ache. Precordial aching is of frequent occurrence.

There may be aching or pain over the gallbladder area, the appendix, the lower abdomen or pelvis without temperature, increased pulse, leukocytosis or other findings which should accompany pathologic conditions in these regions. These patients complain incessantly. Many of them have ovaries, tubes, uterus, appendix or other organs removed with no relief. I have had patients on whom as many as five and six abdominal operations have been performed with more symptoms in the end than before the surgery began. When the patient has vague abdominal pains following an operation, the favorite diagnosis is postoperative adhesions, a diagnosis that is often the basis for more surgery.

A STUDY OF 197 CASES

That these symptoms do accompany ovarian hypofunction is conclusively shown by reference to tables 1, 2 and 3, which are tabulated from histories of 53 castrates which I have observed.

Table 1. *Frequency of Nervous Symptoms*

	53 Castrates Per Cent	96 Menopause Per Cent	48 Involutional Melancholia Per Cent
Nervous, subjective	100.0	92.7	100.0
Excitability	84.2	72.9	100.0
Irritability	68.0	61.4	95.8
Headache	36.0	50.0	83.3
Occipitocervical pain	58.0	37.5	56.2
Decreased memory and concentration	51.0	54.1	95.8
Depression, crying	71.7	60.4	100.0
Psychosis	20.8	35.4	100.0
Formication	23.1	23.9	29.2
Sleep disturbed	66.0	59.3	72.9

Table 2. *Frequency of Circulatory Symptoms*

	53 Castrates Per Cent	96 Menopause Per Cent	48 Involutional Melancholia Per Cent
Hot flushes	94.3	91.6	81.2
Tachycardia, palpitation, dyspnea	54.7	72.9	79.0
Vertigo	68.0	71.8	62.5
Scotomata	43.4	50.0	12.5
Cold hands and feet	43.4	23.9	81.0
Numbness, tingling	37.7	29.1	77.1
Pulse average per minute	76.	78.3	76.
Blood pressure, average	123/76.	138/88.6	128/76.
Pulse pressure, average	47.	50.	52.

That this same train of symptoms is found with striking parallelism in the menopause and in involutional melancholia is shown also by tables 1, 2 and 3, in which are tabulated the symptoms complained of in 96 cases of natural menopause and 48 cases of involutional melancholia.

In table 4 the symptoms accompanying ovarian hypofunction are combined in the order of their frequency as found in 197 cases, consisting of 53 castrates, 96 natural menopause and 48 involutional melancholia.

Under "Onset of Symptoms," in table 5, it will be noted that in nine castrate patients the symptoms were delayed. The average duration was two years and one month. In four cases the delay was two and a half years, three years, five years and six years, respectively. It is possible that these women did not have complete bilateral ovariectomy or that

Table 3. *Frequency of General Symptoms and Signs*

	53 Castrates Per Cent	96 Menopause Per Cent	48 Involutional Melancholia Per Cent
Lassitude, fatigability	75.0	78.1	98.0
Constipation	72.5	72.9	83.3
Vague pains	Not recorded	Not recorded	77.1
Obesity	28.0	51.1	8.33
	Chiefly gonad	(86 cases recorded*)	Moderate obesity
	(43 cases recorded)	97.7	(4 cases recorded)
Menstrual disorder	100.0	41.5	100.0
Amenorrhea	94.3		37 more than 6 mos.
		+8.2	11 less than 6 mos.
Basal metabolism	+6.4	(17 cases)	See special reference
		-7.0	
		(3 cases)	

*Obese before menopause, 18; after menopause, 26.

Table 4. *Syndrome Accompanying Deficiency or Absence of the Ovarian Follicular Hormone in 197 Cases (53 Castrates, 96 Menopause, 48 Involutional Melancholia)*

Order of Frequency of Symptoms	Per Cent
1. Menstrual disturbances	99.2
2. Nervousness, subjective	97.6
3. Hot flushes	89.0
4. Excitability	85.7
5. Fatigability and lassitude	83.7
6. Depression and crying	77.4
7. Constipation	76.2
8. Irritability	75.1
9. Tachycardia, palpitation and dyspnea	68.8
10. Vertigo	67.4
11. Decreased memory and concentration	66.8
12. Sleep disturbed	66.1
13. Amenorrhea	57.6
14. Headaches	56.4
15. Psychosis	52.2
16. Occipitocervical aching	50.6
17. Scotomata	49.4
18. Numbness and tingling	48.3
19. Cold hands and feet	35.3
20. Formication	25.4
21. Vague pains (recorded for involutional melancholia)	77.1

they might have had some supernumerary ovarian tissue. A fragment of ovarian tissue is not sufficient to carry on normal function and probably scar tissue formation and contraction following the operation may cause it to atrophy. In 12 women who had attempts at menstruation following operation the flow was scant and irregular. Fifty of the 53 castrates had complete amenorrhea before consultation.

Werner and associates are of the opinion that involutional melancholia is only an exaggeration of the menopausal syndrome and that it is due to the same cause.

Table 5. *Miscellaneous Data—53 Castrates*

Present average age	33.3 years
Average age of castration	27.2 years
Onset of symptoms:	
Immediate (44)	83.0%
Delayed (9)	17.0%
Period of delay	6 mos., 2; 1 yr., 2; 1.5 yr., 1; 2.5 yr., 1; 3 yrs., 1; 5 yrs., 1; 6 yrs. 1
Average duration of delay in 9 patients	2 1 years
Flow after castration, scant and irregular (12)	23%
Amenorrhea at present (50)	94.3%
21 castrates had had 31 children.	
Cause for castration	Salpingitis (abortion—gonorrhea)

Table 6. *Miscellaneous Data—96 Menopause*

Present average age	44.1 years
Average age at onset of symptoms	40.8 years
Nature of menstrual disturbance:	
1. Irregularity (62 cases)	64.6%
2. Scantiness (50 cases)	52.0%
3. Menorrhagia (19 cases)	19.8%
4. Dysmenorrhea (17 cases)	17.7%
5. Metrorrhagia (6 cases)	6.3%
6. Amenorrhea (40 cases)	41.5%
Average length of amenorrhea (40 cases)	26.2 months

Table 7. Miscellaneous Data—48 Involutional Melancholia

Present average age	49.4 years
Average age of onset of symptoms	47 years
Amenorrhea for more than 6 months	37 patients
Menstruation of disordered type during last 6 mos.	11 patients

BASAL METABOLIC RATE, 36 CASES

Minus 1 to minus 10% 10 cases	0 to plus 10% 10 cases
Minus 11 to minus 15% 5 cases	Plus 11 to 15% 2 cases
Minus 16 to minus 20% 1 case	Plus 16 to 20% 2 cases
Minus 21% 1 case	Plus 21 to 30% 3 cases
	Plus 35 to 64% 1 each

Table 7 gives some of the data on 48 cases of involutional melancholia. Of these 48 subjects only four had moderate obesity; these cases usually show a loss of weight which increases to normal or perhaps above normal with recovery.

Of 73 women at the menopause, six had not had children and 67 women had borne 298 children, an average of 4.44 each. Twenty-one castrates had had 31 children. Twenty-two women of record admitted having had 38 abortions, mostly induced.

DISCUSSION

The term menopause, literally meaning cessation of menstrual flow, is commonly used to designate that critical period in a woman's life more correctly spoken of as the climacteric. Menstrual pause may occur at any time during the menacme from various causes. The menopause is more than a pause or cessation of menstrual flow. This is only one of the phenomena which occur at this time. It is the one sign which is objective and therefore attracts most attention.

The pathogenetic mechanism of menopausal symptomatology is not limited to insufficiency of the ovaries but is the result of a complex endocrine crisis which varies in different individuals. In this crisis the predominating feature is gonadal insufficiency but other glandular disturbances occur subsequently and form an essential part of the complex. Because of the major importance of the gonads in the endocrine system during active sexual life, insufficiency or cessation of function frequently causes imbalance in other interrelated glands such as the anterior pituitary, at times the posterior pituitary, the thyroid, the adrenals, medulla and in some instances the cortex.

With the disturbance of function in the ovaries and other interrelated glands there is a secondary disturbance of the delicate equilibrium existing between the two divisions of the autonomic nervous system with the production of the subjective symptoms described. In other words, most of these symptoms are the result of autonomic nervous system instability secondary to glandular imbalance.

The onset of symptoms and their degree of severity may depend upon the rate of cessation of ovarian function. If the cessation is a gradual process, the interrelated glands such as the pituitary, the thyroid and the adrenals may respond to the needs of the body or readjust their function accordingly; if it be more sudden, as in castration, the disturbance of equilibrium of the organs of internal secretion and the autonomic nervous system will be more severe.

There are three periods in a woman's life when she is apt to have trouble with her thyroid gland: (1) at puberty, (2) during any pregnancy and (3) at the menopause. If a woman is potentially hyperthyroid, i.e., if she has a goiter that has given evidence of causing trouble before, or if she has a colloid goiter with hidden adenomata within, or a frankly adenomatous goiter, she is in great danger of developing hyperthyroidism at any of these pe-

riods. Women were observed who developed frank hyperthyroidism at these critical periods, but they probably had abnormal thyroids which only needed some unstabilizing influence to initiate their hyperactivity.

The vast majority of these women have an approximately normal basal metabolic rate. Reference to table 3 shows that the metabolism of six castrates averaged plus 6.4 per cent. In 20 patients at the natural menopause in whom basal tests were recorded, 17 averaged plus 8.5 per cent and three averaged minus 7 per cent. Table 7 gives the basal metabolic rate of 36 women having involutional melancholia. The rate in these 36 cases (in the others the rate could not be obtained) ranged from minus 21 per cent to plus 64 per cent. However, these higher rates were obviously inaccurate and there was every reason to believe that thyroid function was clinically normal. The two patients having metabolic rates of plus 35 and plus 64 per cent made complete recoveries on estrogen.

SUMMARY AND CONCLUSIONS

This article is based upon an analysis of the objective signs and subjective symptoms presented by 197 women having deficiency or absence of the ovarian follicular hormone. This group of patients consists of 53 castrates, 96 women in the menopause and 48 having involutional melancholia. The subjective symptoms are classified as nervous, circulatory and general.

This group of symptoms is primarily initiated by ovarian hypofunction. The ovarian hypofunction may result from the various causes enumerated. Secondary to the ovarian hypofunction there may be disturbances of function of the pituitary, the thyroid, and the adrenals, with consequent imbalance of the delicate equilibrium normally existing between the two divisions of the autonomic nervous system.

These symptoms occur in castrates and in many women at the menopause. In the first instance there are no ovaries to respond to stimulation and in the second the ovaries do not respond. Many younger women who have irregular and scanty menstruation or amenorrhea during the menacme also develop this typical syndrome. It is easy to diagnose ovarian disturbance when it is associated with menstrual disorder or when it occurs at about 40 years of age or in castrates, but when the symptoms occur before time for the menopause and without much menstrual disorder, one may fail to recognize ovarian hypofunction as a possible cause. Presenting no organic lesion or evidence of disease these patients may be diagnosed as neurasthenics and buffeted about from one physician to another without relief.

This same train of symptoms is found with striking parallelism, but more severe, in involutional melancholia. Involutional melancholia is an exaggeration of the menopausal syndrome and has the same etiology.

All of these groups of patients derive the greatest benefit from the administration of estrogenic hormones.

539 N. Grand Ave.

CASE REPORT OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 88

PRESENTATION OF CASE

E. D., a 19 year old white male, entered Barnes Hospital on January 28 and died on February 16, 1946.

Chief Complaints.—Fatigue, nose bleed and bleeding from the gums.

Family History.—Father had high blood pressure.

Past History.—The patient had the usual childhood diseases without complications except for partial deafness following whooping cough at the age of 3. He had never had scarlet fever or rheumatic fever. He suffered several attacks of tonsillitis and throbbing headaches periodically with occasional vomiting. He graduated from grade school, then worked on his father's farm.

Present Illness.—Three or four years before admission the patient began to have frequency of urination and then increasing weakness and fatigue. He had consulted his physician and was told that he had kidney trouble and was given some pills. Since that time, weakness had persisted and he had been able to do no hard work. As time went on, his vision gradually became impaired. At times his face had been somewhat swollen. Frequent tonsillitis continued to occur and was accompanied by slight swelling of the ankles. Six months previous to admission to the hospital, he began to have nose bleeds which occurred as often as three or four times a week. Then he noticed that his stools were black and tarry. Three weeks before admission, fatigue became marked and drowsiness developed during the day. Soon thereafter his gums began to bleed. He noticed, also, that his urine developed a reddish color. He was taken to a local hospital. During his stay there he developed spots before his eyes and shortness of breath on mild exertion. He lost his appetite and became too weak to walk. Two transfusions were given. While in the hospital he had an attack of pain in the right flank which radiated around to the abdomen. It was rather sharp and lasted for from ten to twelve hours. During the two weeks before entry he had had nausea and vomiting on several occasions. His weight was about 125 pounds during the last year and had remained unchanged. He was sent to Barnes Hospital for further study.

Physical Examination.—Temperature was 37 C., pulse 96, respirations 32, blood pressure 190/120. The patient was somewhat thin and appeared ill. His hearing was impaired markedly and he was slow to respond to questions. However, he seemed oriented. His color was very pale. The skin had a light tan-yellow color. Respirations were rapid and deep. The face appeared puffy. The pupils reacted normally. Eyegrounds showed marked blurring of the disk margins and marked spasm of the arterioles with dilatation of the veins. No hemorrhages or exudate were noted. There was decreased visual acuity. Bloody crusts were present in both nares. The lips were dry and cracked. Blood was oozing from the gums. The tongue was dry. Both tonsils were enlarged and cryptic. There was a uremic odor to the breath. The veins of the neck were not distended but arterial pulsations were prominent. The cervical lymph nodes were moderately large. The lungs were clear. There was a diffuse cardiac impulse in the fifth interspace just to the left of the anterior axillary line. No right-sided enlargement was made out. The rhythm was regular. There were no thrills or murmurs. The sounds were of fair quality. A-2 was accentuated. The abdomen was normal. There was no clubbing of the fingers and no edema. Neurologic examination showed no abnormality.

Laboratory Findings.—Blood count: red cells 1,710,000, hemoglobin 5 gms., white cells 8,500, differential count: basophils 1 per cent, eosinophils 2 per cent, "stab" forms 6 per cent, segmented forms 74 per cent, lymphocytes 10 per cent, monocytes 7 per cent. The red cells were markedly hypochromic. Urinalysis: specific gravity was 1.006, albumin 4 plus, 50 red blood cells per high power field. Stool examination: black, guaiac test 1 plus. Blood chemistry: nonprotein nitrogen 250 mg. per cent, total proteins 4.6 gms. per cent, albumin 2.4, globulin 2.2, CO_2 combining power 44.9 volumes per cent, chlorides 334 mg. per cent (94 milliequivalents), calcium 5.9 mg. per cent, phosphorus 7.0 mg. per cent, alkaline phosphatase 2 Bodansky units, cholesterol 116 mg. per cent. Blood culture showed nonhemolytic streptococcus. Venous pressure was 195-205 mm. H_2O. Circulation time was 11 seconds. Blood antifibrinolysin test was negative. Throat culture showed nonhemolytic streptococcus. Electrocadiogram reading was within normal limits. Roentgenogram of the chest showed the heart was within normal limits. The hilus shadows were unusually prominent, particularly on the right. Bronchial thickening was present. Phenolsulfonphthalein renal function test showed no dye present in the one, two, four or seven hour specimens.

Course in Hospital.—Soon after entering the hospital, slight muscle twitching was noted. The patient vomited everything taken by mouth. He was given 2,000 cc. of $^1/_6$ M. sodium lactate with 10 cc. of 10 per cent $CaCl_2$ intravenously, and later 5 per cent glucose in water and in physiologic saline solution. Digoxin was administered intravenously. He received nine blood transfusions. The blood count gradually rose to about 3,000,000. The blood pressure remained elevated and at one time was 270/160. The urine continued to show large amounts of albumin, some red cells and, frequently, granular casts. The urinary output gradually diminished. One week after admission, a uremic frost appeared. Penicillin was given because of streptococcus in the throat culture. Two weeks after admission, although the patient continued to vomit frequently, he was able to retain a little food. At one time, expiratory wheezing was heard throughout both lung fields. Two weeks after entry, the blood calcium was 6.3 mg. per cent, phosphorus 19.8 mg. per cent. The CO_2 combining power remained at 45.7 volumes per cent. The blood chlorides and nonprotein nitrogen were essentially unchanged. Fluid then appeared in the right pleural cavity and, on aspiration, had the characteristics of a transudate. Frequent thoracenteses were done. The patient gradually became more dyspneic and, finally, comatose, and he died quietly. At no time was there fever.

CLINICAL DISCUSSION

Dr. Harry Alexander: This patient was a young man of 19 who came to the hospital in the terminal stages of renal failure. Our problem today in the clinical discussion is to reconstruct the events that brought about this condition. His father had hypertension. He had frequent attacks of acute tonsillitis; hemolytic streptococcus was cultured from the tonsils while he was in the hospital. Dr. Harford, what is the relation between streptococcal infections and glomerulonephritis?

Dr. Carl Harford: Clinically, a close association may be observed between streptococcal infections and acute glomerulonephritis in the sense that many individuals who develop glomerulonephritis give a history of an infection with streptococci within the preceding few weeks.

Dr. Alexander: Specifically, which streptococci are important?

Dr. W. Barry Wood, Jr.: The group A, beta hemolytic streptococci Lancefield. In general, there are three groups of streptococci: hemolytic or beta; green producing, or alpha; and nonhemolytic or gamma. Lancefield divides the streptococci into groups from A to, I believe, H, and then group A is subdivided further into types designated from 1 to about 30. There are thus three designations of streptococci: alpha, beta, gamma, as regards hemolysis; groups A to H as regards immunologic grouping and source; and specific serologic types designated by Arabic numerals. The streptococci concerned with glomerulonephritis are the group A, beta hemolytic streptococci.

Dr. Harford: The group A of Lancefield is that group most concerned with human disease.

Dr. Alexander: What is the significance of the

interval between the streptococcal infection and the onset of glomerulonephritis?

DR. HARFORD: The interval suggests that nephritis is related to an antigen-antibody phenomenon.

DR. ALEXANDER: Are there demonstrable antibodies?

DR. HARFORD: Yes, there is usually a high titer of antistreptolysin and antifibrinolysin in the patient's serum.

DR. ALEXANDER: Does the experimental production of nephritis in animals by so-called nephrotoxic sera bear on this problem?

DR. HARFORD: Yes, in this country Dr. Smadel has produced a destructive type of nephritis in animals in the following manner: Kidney tissue of rats was ground to a fine suspension and injected repeatedly into rabbits. In the rabbit serum, there appeared antibodies against rat kidneys. When serum of the rabbit was injected into normal rats, changes in the kidney which resembled those of glomerulonephritis in man were produced.

DR. WOOD: Among others, Schwentker at the Rockefeller Institute has secured additional evidence along this same line. He has demonstrated that after scarlet fever there are antibodies against human kidney in the blood. He has also shown that if streptococcal or staphylococcal toxins are mixed with kidney tissue, the kidney substance is rendered antigenic. For example, the injection into the rabbit of a mixture of rabbit kidney and streptococcal toxin will call forth antibodies to the rabbit kidney and cause acute glomerulonephritis. The mechanism by which glomerulonephritis is produced in man may be similar to that demonstrated by Schwentker.

DR. ALEXANDER: Manifestly, this patient had chronic glomerulonephritis. What is the relation between acute and chronic glomerulonephritis? May the latter develop without a history of the former?

DR. VIRGIL SCOTT: Yes, many patients have an insidious onset of nephritis and give no clear history of an acute attack.

DR. ALEXANDER: Are there antibodies against streptococci in chronic glomerulonephritis?

DR. SCOTT: The observations are variable. If the infection continues, antibodies are demonstrable.

DR. WOOD: The antibody titer in the serum against the streptococcus is usually low except during an exacerbation. It should be remembered that a high titer of antistreptolysin and antifibrinolysin indicates nothing more than that the patient has had in the recent past a streptococcal infection. It does not mean that the patient has developed nephritis or any other complication.

DR. ALEXANDER: What is the prognosis in glomerulonephritis?

DR. FUTCHER: The prognosis depends on the nature of the infection associated with the nephritis. It appears that patients who develop nephritis after infections of the upper respiratory tract are more likely to develop chronic nephritis than patients with skin infections caused by the same organisms. Perhaps the infection of the skin is superficial and is more easily disposed of. I think Dr. Longcope believes that most patients with chronic glomerulonephritis have a long-standing streptococcal infection some place in the body, for example, in the tonsils. In general one may say that about 70 per cent of all patients with acute glomerulonephritis apparently will heal the lesion, while about 30 per cent go on to the chronic stage of disease.

DR. ALEXANDER: This patient was given penicillin. Why? Is it effective in destroying streptococci in the throat?

DR. HARFORD: I am not sure that it is.

DR. WOOD: It is effective in controlling superficial tonsillar infection. We do not know about its effectiveness in deep infections. It would be interesting to carry out an investigation on this point. On a series of streptococcal carriers who are to have tonsillectomies, penicillin could be given for, say, a week and then the tissues of the tonsil ground up and cultured after being removed. It is possible that penicillin would not rid the tonsils entirely of streptococci.

DR. ALEXANDER: Are the sulfonamide drugs effective?

DR. WOOD: No, they will not even cause cultures of the throat to become consistently negative.

DR. ALEXANDER: We are apparently all agreed then that this patient had glomerulonephritis and that the disease began at about the age of 15 years.

DR. EDWARD MASSIE: I agree in general, but I believe other things should be considered. Why does this patient not have malignant hypertension?

DR. ALEXANDER: That is certainly a possibility. His father had hypertension.

DR. MASSIE: His blood pressure was extremely high; in fact, much higher than is usually seen in glomerulonephritis. He also had changes in the blood vessels of the eye and an enlargement of the heart. It is quite true that patients with hypertension usually die of a lesion of the heart or of the brain, but a few do succumb to renal failure. This may be one of those relatively rare instances.

DR. ALEXANDER: This man was only 19 years old and malignant hypertension at that age is unusual.

DR. MASSIE: Yes, that is true. On the other hand he may have had primary renal disease and secondary vascular lesions. At the time of his death perhaps the latter overshadowed the former.

DR. ALEXANDER: Is the heart sufficiently large to assume a history of hypertension for four years?

DR. MASSIE: That is difficult to say. The size of the heart is not always a reliable index of the duration or the severity of hypertension.

DR. ALEXANDER: Is it possible that there may be more hypertrophy of a heart than will be shown in an anterior-posterior radiograph of the chest?

DR. DONALD BOTTOM: Yes, that is possible. In this patient the diaphragm was low and the heart may be somewhat elongated.

Dr. Alexander: Dr. Moore, will you be able to tell us if this man had both primary and secondary renal disease, and which came first?

Dr. Robert A. Moore: I had expected to be able to do so.

Dr. Wood: This patient had edema of the face on two occasions. Is that not significant?

Dr. Massie: Yes, edema of the face is observed more frequently in nephritis than in hypertensive disease. However, the plasma proteins, especially the albumin, were low in this patient and this may account for some edema.

Dr. Futcher: Is not a low albumin in the plasma more characteristic of glomerulonephritis?

Dr. Massie: Yes.

Dr. Harold Scheff: Are not the electrocardiographic changes inconspicuous? If this patient had hypertension for four years would they not be more apparent?

Dr. Massie: Yes, but this patient was only 19 years old. In the usual patient with hypertension there are many other factors which may alter the picture.

Dr. Alexander: The venous pressure was consistently elevated. There were readings of 190 to 205 on six occasions. At the same time the circulation time was normal. Is this consistent with the diagnosis of nephritis?

Dr. Massie: Yes, such observations may be seen in either cardiac failure or acute glomerulonephritis in the presence of anemia. Without anemia the circulation time probably would have been slowed.

Dr. Alexander: Why was this patient anemic?

Dr. Massie: Anemia in renal failure is frequently observed and in general it is related to elevation of the nonprotein nitrogen of the blood.

Dr. Carl V. Moore: The exact cause of anemia in nephritis is not known but it is apparently a depression of the bone marrow.

Dr. Alexaner: What part does the loss of blood play?

Dr. Carl V. Moore: It makes some contribution but, in general, there is insufficient loss through the kidneys to account for anemia. If it were blood loss there should be an increase in the reticulocytes in the blood. We did not make a reticulocyte count in this patient.

Dr. Alexaner: The serum calcium of this patient was extremely low. Why?

Dr. Futcher: There are two reasons: the high serum phosphorus and the hypoproteinemia. In general the calcium and the phosphorus of the serum vary in inverse ratio to one another. Normally, there are about 4 milligrams of phosphorus and 10 milligrams of calcium per 100 cc. The mathematical product of these two figures is 40; and is known as the calcium-phosphorus product. When one goes down or up there is a reciprocal change in the other, the product remaining at about 40. In this patient at one time the phosphorus was 7 milligrams. Of the 10 milligrams of calcium, from 4 to 5 are normally bound to protein. When the amount of protein is decreased, the amount of calcium is correspondingly decreased. There are two fractions of calcium in serum, one of which is diffusible and the other non-diffusible and bound to albumin. It is only the former that is pharmacologically active. Hence, under the conditions observed in this patient, one would not expect tetany.

Dr. Alexander: Why was the phosphorus of the serum high?

Dr. Futcher: Largely because of the inability of the kidney to excrete phosphorus. An anomaly in this patient is that with a high phosphorus and a high nonprotein nitrogen, the carbon dioxide combining power was only 44.9 volumes per cent.

Dr. Alexander: How do you explain that?

Dr. Harold Bulger: Sometimes the chlorides of the serum are low because of vomiting and the carbon dioxide combining power remains somewhat higher in order to compensate. However, that was not true in this patient inasmuch as the chlorides were 334 milligrams. We may assume in this patient that the normal total base was somewhat higher than in most people.

Dr. Alexander: Are there any further questions?

Student: How do you account for the pain in the right flank which radiated into the abdomen?

Dr. Alexander: It may have been block of a ureter. Perhaps he had a renal stone.

Dr. Edward Reinhard: There was blood in the urine and perhaps a blood clot blocked the ureter.

Dr. Wood: This phenomenon of bleeding into the renal pelvis and ureter is not uncommon and sometimes is referred to as "renal epistaxis."

Dr. Futcher: We have mentioned hypertensive disease and nephritis. Should not chronic pyelonephritis be considered?

Dr. Alexander: Yes, that is a possibility. I take it that we are then agreed that the most probable diagnosis is chronic glomerulonephritis with the changes usually associated with the terminal stages of that disease—pericarditis and colitis.

ANATOMIC DIAGNOSIS*

Chronic glomerulonephritis.

Arteriolosclerosis with necrosis of arterioles in kidney.

Hypertrophy and dilatation of the heart (410 grams).

Hydrothorax, bilateral (right 500 cc., left 1,200 cc.).

Hydropericardium (150 cc.).

Hydroperitoneum (300 cc.).

Edema of face, neck, hands, back, abdominal and chest walls.

Petechiae beneath epicardium and endocardium and the mucosa of the stomach, small intestine, colon, renal pelves, bladder and gallbladder.

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

congestive heart failure



The de-edematizing action of Searle Aminophyllin decreases the cardiac burden, permitting the heart muscle to function more efficiently.

Searle Aminophyllin produces diuresis whether administered orally or parenterally, and thus has a field of usefulness covering emergencies and chronic congestive cardiac failure.

SEARLE AMINOPHYLLIN

contains at least 80% of anhydrous theophyllin.
G. D. Searle & Co., Chicago 80, Illinois

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE







Steadfast . . .

ON UNSHAKABLE FOUNDATIONS

The Borobudur on Java has resolutely survived eleven centuries of unrelenting tropical climate, savage jungle growth and volcanic earthquakes—because of its unshakable foundations. • Likewise, optimum development in childhood is dependent upon a firm nutritional foundation laid in early infancy. • BIOLAC furnishes among other essential nutrients the valuable proteins of milk, an outstanding source of all the indispensable amino acids . . . the prerequisite building blocks of strong tissues. • BIOLAC is bacteriologically safe . . . convenient . . . economical . . . readily available.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE, NEW YORK 17, N. Y.

Biolac

The foundation is the thing!

Biolac is a liquid modified milk, prepared from whole and skim milk with added lactose, and fortified with thiamine, concentrate of vitamins A and D from cod liver oil, and iron citrate; only ascorbic acid supplementation is necessary. Evaporated, homogenized and sterilized. Biolac is available in 13 fl. oz. tins at all drug stores.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition



Quickly prepared . . . easily calculated: 1 fl. oz. Biolac to 1½ fl. oz. water per lb. of body weight.

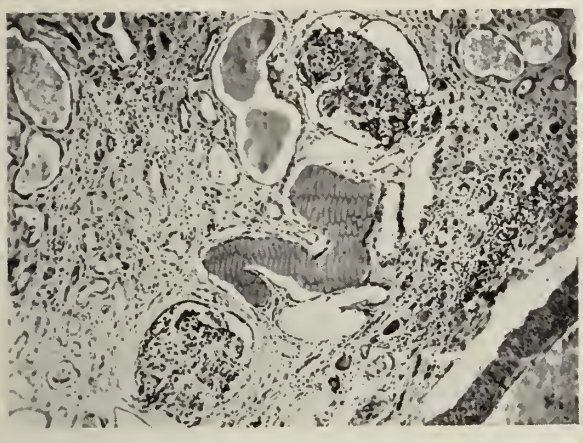


Fig. 1.

Fibrocaseous tuberculosis of upper lobe of left lung with cavity formation and bronchogenic spread to lower lobe of right lung. Tuberculosis of bronchial lymph nodes draining upper lobe of left lung.

PATHOLOGIC DISCUSSION

DR. ROBERT A. MOORE: The right kidney weighed 65 grams and the left kidney 75 grams. The reduction in size was symmetrical; the capsule was adherent and the surface finely granular. The cortex was grayish-yellow in color and the distinction between cortex and medulla was obscured. Throughout the cortex there was a moderate number of petechiae. The pelves were slightly dilated but the mucosa was thin and glistening. Beneath the mucosa were a few petechiae. The peripelvic fat was moderately increased in amount. The ureters and bladder were not remarkable except for petechiae.

The gross appearance of the kidneys given in the preceding paragraph is that of chronic glomerulonephritis except for the numerous petechiae which are not frequently observed in this disease. Certainly chronic pyelonephritis can be eliminated completely as a possibility on the basis of the gross appearance of the kidneys. Arteriolar disease of the kidneys and more particularly malignant arteriolar disease cannot be dismissed inasmuch as petechiae are common manifestations of malignant hypertension.

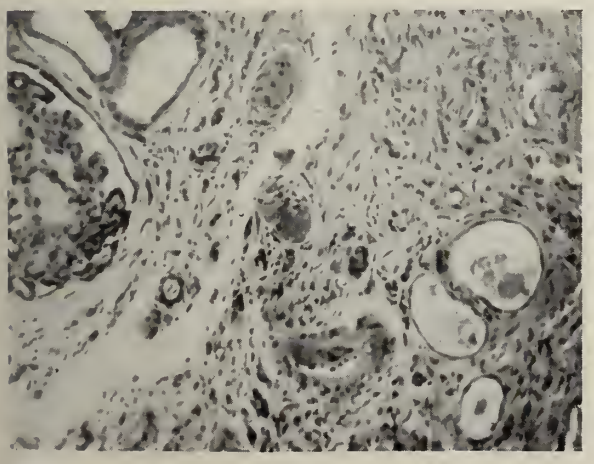


Fig. 2.

Microscopic appearance of the kidney shows features of both chronic glomerulonephritis and of malignant nephrosclerosis. All of the glomeruli show some pathologic change varying from increase in cellularity, obliteration of the glomerular architecture and adhesions of glomeruli to the capsule to complete fibrous obliteration of individual glomeruli (Fig. 1). The arterioles in all parts of the kidney are thickened by hypertrophy of the media and slight thickening of the intima. In a few arterioles there is necrosis of the wall (Fig. 2). There is an increase of the interstitial tissue and infiltration with lymphocytes and large mononuclear cells (Fig. 3). Many of the tubules are lined with a low cuboidal type of epithelium.

In view of the age of the patient, the clinical manifestations and the pathologic changes in the kidney, I conclude that this patient had, for the postulated four years, chronic glomerulonephritis. He developed hypertension and associated with this there were changes in the arterioles. Toward the end of his life with the onset of uremia, the necrotic changes in the arterioles appeared. This conclusion is consistent with the known occurrence of necrosis of the arterioles when there are both hypertension and uremia.

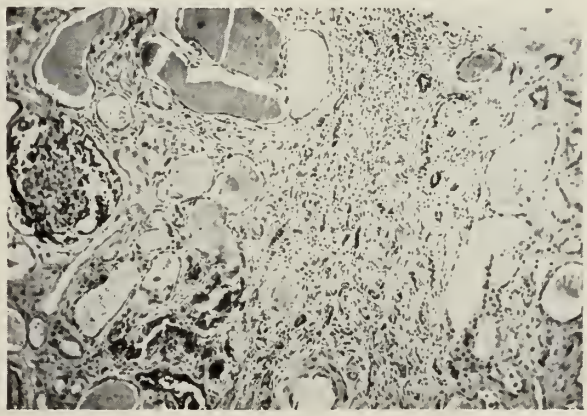


Fig. 3.

An interesting anatomic observation not related to the clinical signs and symptoms was a tuberculosis of the upper lobe of the left lung with formation of a cavity and bronchogenic tubercles in the lower lobe of the right lung. I assume that this patient had a minimal latent tuberculosis of the apex of the left lung which during the last few weeks of his life, at a time when he was severely ill, became activated and spread.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 5. May, 1946.

TUBERCULOSIS AND HOSPITALS

The method by which tuberculosis is discovered for treatment is known as case finding. This has developed in step with medical progress. In the period before and immediately after World War I, the horse-and-buggy days of the stethoscope changed to the Model-A days of an X-ray for every suspected case.

Modern case finding has leaped ahead with the speed of lightning. During the past decade, the technical developments in X-ray methods, forced to completion by the needs of the armed services, have brought efficient, fast X-ray service into the low-cost brackets. It is now possible to afford a method which one cannot afford to disregard.

Case finding in hospitals is the perfect combination of method and place. Hilleboe and Morgan, in their manual on mass radiography, have stated concisely that a hospital and an industry are the two best places to practice mass case finding by X-ray. There are about 16,000,000 hospital admissions a year, and the patients who go there expect to be examined carefully.

A complete program for control of tuberculosis in a hospital must include:

1. The space for the care of tuberculous patients, newly admitted and recently discovered.
2. A simple, efficient routine of infectious disease precautions for protection of the patients and personnel.
3. A complete case-finding program for patients and personnel.

The rationale and details of these approaches have been described in a manual "The Management of Tuberculosis in General Hospitals," published by the American Hospital Association in 1939, and revised in 1946.

Case finding in a hospital may be applied to two groups—the patients and the personnel. The patient group consists of all new admissions to the hospital, and all patients registering for the first time at the out-patient clinic. The personnel groups include the medical and nursing staffs, and all categories of hospital employes.

The ideal qualities of a method to be used for examination of new admissions must include speed, convenience, efficiency, low cost and permanence of record.

Only an X-ray method would have these qualities, and only miniature films of high quality would meet the tests of efficiency and cost. Miniature films in use now are the 35 mm. and the 70 mm. camera films, and the 4″ x 5″ X-ray film. A stereoscopic pair of any of these sizes is about as efficient as a 14″ x 17″ single film provided the new technical developments have been used. The cost of each can be as low as five to twenty cents, exclusive of the costs of film readings.

There are alternative methods, to be used when equipment for taking miniature films is not available. A 14″ x 17″ paper X-ray is slightly less efficient and costs about half as much as the 14″ x 17″ film, the standard of comparison. Fluoroscopy costs little and provides an immediate report, but it is less efficient, needs a specially trained operator and leaves no permanent record.

Supplemental film methods are used only to confirm or investigate the original findings. The use of 14″ x 17″ stereo films provides the best information when the original film or lesion is indefinite.

Case finding among personnel groups is done by the methods used for new admissions. In addition, it may be considered valuable to tuberculin skin-test student nurses, nurses in tuberculosis units, medical students, internes and residents. Original reactions can be checked at intervals so long as they continue to be negative. Recurrent X-raying of the personnel groups is necessary to a complete case-finding program. Four to twelve months is the usual interval.

Surveys of various population groups have shown that about 1 to 3 per cent have reinfection type tuberculosis. Pre-induction surveys for the armed forces show that an average of about 0.9 per cent have pulmonary tuberculosis in that age group.

In hospital surveys reinfection type of disease was found in 1.5 per cent to 2.3 per cent of the patients, with perhaps one-third of this amount called "active." The medical and nursing groups have shown variable levels of infection and disease, depending on rural or urban origin and duration of contact with patients. The levels rise rapidly during continued contact, often to a 100 per cent infection rate. The older nurses have been found to have from 2.5 per cent to such fabulous rates as 8.8 per cent reinfection type disease, and ward workers with many years of contact with patients may have up to 4.3 per cent disease. Non-contact workers have the same per cent as in the comparable local population.

The present status of hospital case finding can be judged from a survey of 934 teaching hospitals by a joint committee of the American Trudeau Society and the American Hospital Association in 1944. X-rays are being taken of student nurses by 85 per cent of the hospitals; of the medical residents by 28 per cent; of graduate nurses by 31 per cent and of the other employes by only 17 per cent. In spite of the war, 56 hospitals have begun routine case finding among new admissions. Of these, seven hospitals do not knowingly admit tuberculous patients.

The future prospects of case finding in hospitals should embrace 100 per cent of the hospitals. Rou-

CONTROL...
the Core of Confidence



Your Confidence in Penicillin Schenley
Is Assured by the Vast Program of Control
Maintained at Schenley Laboratories

RIGID CONTROL at *every step* in the production of Penicillin Schenley insures an extremely high standard of purity, potency, and pyrogen-freedom.

This fact...and the *continuing* research procedures which determine production methods at the Schenley Laboratories...are the vital core of the confidence with which you can specify Penicillin Schenley.

PENICILLIN SCHENLEY

SCHENLEY LABORATORIES, INC.

Executive Offices: 350 Fifth Avenue, New York, N. Y.

Your Local Distributor for **PENICILLIN** SCHENLEY *is:*

ST. LOUIS
Charles A. Schmidt Instrument Co.
Storz Instrument Co.

SPRINGFIELD
Burt Krone Company

tine case finding certainly will become widespread when the results have become known, when help becomes available, and when the equipment can be procured.

Practically, case finding will need to be explained. The medical staff and the hospital manager may approve of the program and methods, but the hospital board may need to be enlightened. A director is necessary for the planning and execution of a suitable program for each hospital. It helps if he understands tuberculosis work and will do no harm if he has some of the fervor of an evangelist.

In conclusion, case finding in a hospital finds tuberculosis—the first essential in any tuberculosis program. It provides the hospital with a knowledge of all of the tuberculosis within its walls. It improves the hospital's competency and removes a hazard to patients and personnel—the unrecognized case. It improves the diagnostic efficiency of the hospital, both for tuberculous and non-tuberculous disease. It is bound to improve community health. Case findings in hospitals, by hospitals, is certain to become a widely used procedure.

TB Search in Hospitals, W. H. Oatway, Jr., M.D. The NTA Bulletin for November, 1945.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics as the Ellis Fischel State Cancer Hospital, Columbia, for May and June, which all members are invited to attend, beginning at 1:00 p. m., follows:

May 1: Miscellaneous.
May 3: Gynecological and Genitourinary.
May 8: Skin.
May 10: Breast.
May 15: Gastrointestinal.
May 17: Cervix.
May 22: Skin.
May 24: Head and Neck.
May 29: Bone and Lymphomas.
May 31: Miscellaneous.
June 5: Miscellaneous.
June 7: Gynecological and Genitourinary.
June 12: Skin.
June 14: Breast.
June 19: Gastrointestinal.
June 21: Cervix.
June 26: Skin.
June 28: Head and Neck.

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Merle Q. Howard, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.

Arthur J. Patek, M.D.

G. H. Schroeder,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

MAY, 1946

EDITORIALS

URGENT

House Bill No. 206, known as the Doctors' Prefix Bill, becomes law on July 1, 1946. Members are urged to make appropriate changes immediately in their office name plates, stationery, cards, prescription blanks and such. The law provides that any one using the word "Doctor" or "Dr." before his name must affix words or letters after his name designating the degree held or the type of practice in which the individual is engaged.

Example
Dr. John Smith, M.D.
or
John Smith, M.D.
Physician and Surgeon

NOT
Dr. John Smith
Physician and Surgeon

The law applies as well to dentists, osteopaths, chiropractors, optometrists or any other person practicing a healing art and using the word "Doctor" or "Dr." before his name. The full bill appears on page 339.

HOWARD B. GOODRICH, M.D., PRESIDENT

Howard B. Goodrich, M.D., Hannibal, was elected and installed as President of the Missouri State Medical Association by the House of Delegates at the 88th Annual Session, meeting in St. Louis, March 26.

Dr. Goodrich has been active in medicine in Missouri since 1926 when he began practice in Hannibal. He was born in Brooklyn, New York, on June 15, 1899, the son of the late Dr. Charles Howard Goodrich of Brooklyn, president of the New York State Medical Association in 1937. Dr. Goodrich graduated from Phillips Exeter Academy, Exeter, New Hampshire, in 1916, and then attended Williams College, Williamstown, Massachusetts, for two years.



HOWARD B. GOODRICH, M.D.

His medical degree was received from Harvard Medical School, Boston, in 1922. He served as an intern at the Methodist Hospital, Brooklyn, for two years; was assistant resident in obstetrics at the New York Nursery and Childs Hospital in New York City for six months and then served as resident surgeon on the gynecological service at Bellevue Hospital, New York City, during the year of 1925 after which he moved to Hannibal where he has remained in the practice of medicine and surgery, giving particular attention to obstetrics and gynecology.

Dr. Goodrich has been a member of the American College of Surgeons since 1929; is serving his second term as a member of the Missouri State Board of Health; is a past president of the Mississippi Valley Medical Society; served on the organization committee of Missouri Medical Service and is first vice president of the Board of Trustees of Missouri Medical Service. He is on the attending medical staffs of the Levering and St. Elizabeth's Hospitals at Hannibal.

Since 1937 Dr. Goodrich has been Councilor of the Second Councilor District and served as Vice Chairman of the Council from 1943 to 1946. He is a past president of the Marion-Ralls County Medical Society and is a member of the Committee on Maternal Welfare of the Association.

Dr. Goodrich is active in community affairs as well as those medical. He is a member of the Hannibal Lion's Club, the Hannibal Chamber of Commerce, the Hannibal Country Club and the American Legion.

Dr. Goodrich has participated in the practice of medicine and in organized medicine faithfully and intelligently and the Association is fortunate in having him as its leader during the coming year.



Doctor's nightcap in baby's bottle

When the doctor prescribes 'Dexin' brand High Dextrin Carbohydrate, it is like a soothing nightcap for both himself and his little patients. Because of the high dextrin content, (1) intestinal fermentation with its tendency to colic and diarrhea is diminished, and (2) the formation of soft, flocculent, easily digested curds is promoted. Frantic parental midnight phone calls are less frequent and both the doctor's and the babies' rest are undisturbed.

'Dexin' is readily soluble in either hot or cold milk or other bland fluids, and it is not so sweet as to be unpalatable. 'Dexin' does make a difference.

'Dexin'

HIGH DEXTRIN CARBOHYDRATE

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.
'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

MORRIS B. SIMPSON, M.D., PRESIDENT-ELECT

On March 26, at the 88th Annual Session, the House of Delegates elected Morris B. Simpson, M.D., of Kansas City, President-Elect. Dr. Simpson will be installed as President in Kansas City in 1947.

Dr. Simpson was born December 29, 1886, at Buffalo, Kansas. He received his early school education at Council Grove, Kansas, and attended Baker University at Baldwin, Kansas, for two years. He entered the study of medicine at the University Medical College, Kansas City, Missouri, from which he received the degree Doctor of Medicine in 1913. He returned to Kansas to practice until 1919 when he established his practice in Kansas City, limiting his work to eye, ear, nose and throat.

Dr. Simpson entered postgraduate work at New York Eye and Ear Hospital where he remained for one year, and also six months at the New York Polyclinic Hospital. He has been in active practice in Kansas City since 1921 when he became a member of Jackson County Medical Society. During World War I, Dr. Simpson was a Captain in the Medical Corps of the British Army. He was awarded for his services the Croix de Guerre and the British Military Cross.

He is a member of the Kansas City O. O. R. & L. Society, the American Academy of Ophthalmology and Otolaryngology and a Diplomat of the American Board of Otolaryngology. He is a member of the staff of the Children's Mercy Hospital, Kansas City General, St. Mary's, Research, Kansas City Tuberculosis and is a member of various other civic and community organizations. During his membership in the Medical Society he has been extremely active in the progressive endeavors of the Society, serving on many committees and as secretary of the Society, president of the Society in 1937 and many years as delegate to the State Association. He has served on the committees of the State Association and was particularly active as a member and Chairman of the Committee on Public Policy and Relations.

Dr. Simpson is a past president of the Kansas City Society of O. O. R. & L. and served as a vice-president and secretary of the Kansas City Southwest Clinical Society.

He is a member of the Board of Directors of the Blue Cross Hospital Service and Surgical Care, Inc. During his administration as president of Jackson County Medical Society, the executive office was established and the committee appointed which developed Blue Cross Hospital Service and early studies were commenced in preparation for the development of Surgical Care, Inc.

Dr. Simpson is well recognized for his work in medical organization and his untiring effort toward advancement of the profession in the interest of the people and public relations.



MORRIS B. SIMPSON, M.D.

ANNUAL SESSION

The 88th Annual Session of the Missouri State Medical Association convened in St. Louis, March 24, 25 and 26, with 813 registered at the meeting.

The following officers were elected by the House of Delegates: President, Howard B. Goodrich, M.D., Hannibal; President-Elect, Morris B. Simpson, M.D., Kansas City; Vice Presidents, Daniel L. Sexton, M.D., St. Louis, Winfred L. Post, M.D., Joplin, and G. T. Bloomer, M.D., St. Joseph; Speaker, Ralph E. Duncan, M.D., Kansas City; Vice Speaker, W. S. Sewell, M.D., Springfield; Delegates to the American Medical Association, A. R. McComas, M.D., Sturgeon, W. L. Allee, M.D., Eldon, R. E. Schlueter, M.D., St. Louis, and James R. McVay, M.D., Kansas City; Alternates, W. A. Bloom, M.D., Fayette, M. Pinson Neal, M.D., Columbia, H. E. Petersen, M.D., St. Joseph, H. L. Kerr, M.D., Crane.

The Constitution and By-Laws were amended by adding Section 6 to Chapter VIII of the By-Laws as follows: "For a period ending December 31, 1946, a member of any component society who has served in the Armed Forces of the United States or of its allies for a period of at least twelve months, may receive an abatement equal to one full year's dues and assessments otherwise due and payable to the Missouri State Medical Association. The member may elect to receive his abatement either in 1946 or 1947."

Minutes of the Session will be published in the July issue of THE JOURNAL.

NEWS NOTES

Dr. Neil S. Moore, St. Louis, addressed the Adams County (Illinois) Medical Society at a dinner meeting in Quincy on November 8 on "Personal Views on the Present Status in the Diagnosis and Treatment of Bladder Neck Obstruction."

A NEW CEREAL FOR

Infants and Children WITH PAPAYA FRUIT

DRIED FRESH TO PRESERVE NATURAL ENZYMES AND PECTINS



THE LATEST ADDITION to the famous S.M.A. Infant Foods —CEROL . . . something new in infant feeding—FLAVORED . . . with mellow papaya fruit—FORTIFIED . . . with vitamins and minerals — READY TO SERVE . . . a nutritious, precooked, multigrain cereal—Supplied in 8 oz. packages.

Wyeth

REG. U. S. PAT. OFF.

S. M. A. DIVISION • WYETH INCORPORATED • PHILADELPHIA 3 • PA.

Dr. Barnard C. Trowbridge, Kansas City, now instructor in otolaryngology at the AAF School of Aviation Medicine, Randolph Field, Tex., spoke before the San Antonio Society of Ophthalmology and Otolaryngology on March 14 on "Correlations of Hearing Tests."

Dr. Wallis Smith, Springfield, addressed a District Training School of the Missouri Field Army of the American Cancer Society, on "Importance of Early Diagnosis," at Springfield on March 19. Dr. J. R. Amos, Springfield, spoke on "Service to Cancer Patients."

Dr. Harry Alexander, St. Louis, appeared on the April 9 program of "The Doctors Talk It Over" on station KXOK. His subject was "Allergic Diseases."

Dr. O. P. Hampton, St. Louis, spoke before the Madison County (Illinois) Medical Society at Edwardsville on April 5 on "Some Advances in Management of Compound Fractures in World War II."

Dr. Everett Sugarbaker, Columbia, was guest speaker at a meeting of the Audrain County Medical Society held at the Audrain Hospital in Mexico on February 25.

At the fourth program of the health and child development institute held in Kansas City on March 12, Dr. Edward H. Hashinger spoke on "Modern Miracles in Medicine"; Dr. Hugh L. Dwyer on "Rheumatic Fever—the Recognition and Treatment," and Dr. Rial R. Oglevie on "Undulant Fever."

Dr. Claude Grant, St. Joseph, addressed the South Side Lions Club of St. Joseph on February 26 on "Socialized Medicine."

Dr. Harry L. Alexander, St. Louis, has been appointed a part-time chief of section in the professional services division of the Veterans Administration. He will serve as consultant and adviser on allergy.

Mr. Jay Ketchum, executive vice president of Michigan Medical Service, has been appointed director of the newly created Division on Prepayment Medical Care. Mr. Ketchum will serve on a part-time basis according to arrangements made with Michigan Medical Service. His principal duties for the present will be to coordinate existing medical care plans in states and to aid states in establishing their own prepayment medical care plans.

Drs. Donald Coburn, G. Wilse Robinson, Jr., and Harold Zuber, Kansas City, spoke before the Kansas City Rotary Club on April 4.

Dr. Sam H. Snider, Kansas City, was elected president of the Missouri Chapter of the College of Chest Physicians at a meeting in St. Louis on March 24. Dr. W. W. Buckingham, Kansas City, was elected vice president, and Dr. A. J. Steiner, St. Louis, secretary-treasurer.

Dr. G. A. Roy, Kansas City, was elected president of the Kansas City Association of Railway and Industrial Physicians and Surgeons at a meeting on April 5. Dr. E. P. Heller was elected vice president and Dr. Carl N. Lindquist, secretary.

Six Missouri physicians talked with Senators Donnell and Briggs in Washington concerning the Wagner-Murray bill on April 15 through the auspices of the National Physicians' Committee. The physicians were Drs. Howard B. Goodrich, Hannibal; Wallis Smith, Springfield; W. A. Bloom, Fayette; A. S. Bristow, Princeton; Vincent T. Williams, Kansas City, and E. C. Ernst, St. Louis.

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Atkins, James, M.D., Lamar.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.
Bohrer, Edward R., M.D., Jefferson iCty.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Brookreson, A. F., M.D., Poplar Bluff.
Broyles, Watkins A., M.D., Bethany.
Brumm, Harold J., M.D., St. Joseph.
Camp, George H., M.D., Springfield.
Chiarotinno, Joseph F., M.D., St. Joseph.
Cooper, Maurice E., M.D., Columbia.
Clark, Ray A., M.D., Lawrence, Kansas.
Craig, Irwin T., M.D., Joplin.
Craig, Owen, M.D., St. Joseph.
Crouch, F. Richard, M.D., Farmington.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Dowell, Donald M., M.D., Chillicothe.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Elkins, Ronald F., M.D., Springfield.
Ellis, Coburn H., M.D., Sweet Springs.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Goldberg, I. E., M.D., Polo.
Good, Raymond F., M.D., Independence.
Greene, Harry L., M.D., Hannibal.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.

CAMP

Orthopedic Support FOR Chronic Low Back Pain



Patient of intermediate type-of-build (skeleton indrawn)

This lumbosacral support is specifically designed to limit the range of the lumbar spine bending when either the framework or soft tissues of the low back are the seat of injury or disease. Effective support is given the gluteal region, the lumbar spine and the sacro-iliac and lumbo-sacral joints. The adjustment about the pelvic girdle prevents undue pressure of the upper adjustments and yet the presence of the center adjustment gives relief and comfort to the patient. Provision is made for reinforcement with aluminum uprights when indicated.

CAMP

ANATOMICAL SUPPORTS

Prescribed in many types for the condition illustrated and for Prenatal, Postnatal, Post-operative, Pendulous Abdomen, Visceroptosis, Nephroptosis, Hernia and Orthopedic conditions.

S. H. CAMP & COMPANY
Jackson, Michigan

World's Largest Manufacturers of Scientific Supports

Offices in NEW YORK • CHICAGO
WINDSOR, ONT. • LONDON, ENG.

If you do not have a copy of our "Reference Book for Physicians and Surgeons", copy will be sent upon request.

Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D., Springfield.
Hughes, J. M., M.D., St. Joseph.
Isbell, Charles, M.D., Carthage.
Johnston, Andrew D., M.D., Waynesville.
Jones, James B., M.D., Rolla.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kinney, Wm. M., M.D., Riverside, Calif.
Kitchen, William M., M.D., Moberly.
Knepper, Paul, M.D., St. Joseph.
Kulowski, Jacob, M.D., St. Joseph.
Landau, Daniel B., M.D., Hannibal.
Leech, Charles A., M.D., Columbia.
Lewellen, Charles H., M.D., Louisiana.
McDonald, W. P., M.D., St. Joseph.
McKinstry, Karl V., M.D., DeSoto.
McNew, William T., M.D., Carthage.
McPheeters, J. W., M.D., Poplar Bluff.
Morse, Marvin, M.D., St. Joseph.
Mullinax, Orr., M.D., St. Joseph.
Murphy, B. L., M.D., Hannibal.
O'Brien, James A., M.D., Joplin.
O'Donoghue, James, M.D., St. Joseph.
Platz, John H., M.D., Carrollton.
Pearse, Roy W., M.D., Nevada.
Post, Cyril A., M.D., Poplar Bluff.
Post, Winfred L., M.D., Joplin.
Redmond, William, M.D., St. Joseph.
Robichaux, E. B., M.D., Excelsior Springs.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Rowe, A. R., M.D., Popular Bluff.
Saferstein, H. T., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Scorse, S. W., M.D., Webb City.
Senne, Herbert C., M.D., St. Joseph.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stacey, W. T., M.D., St. Joseph.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Talty, M. H., M.D., St. Joseph.
Taylor, Leon A., M.D., Jefferson City.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Throgmorton, H. B., M.D., Sikeston.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Well, J. W., M.D., Palmyra.
Wepprich, Michael S., M.D., St. Charles.
Whitten, Foster, M.D., Carthage.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Wood, George H., M.D., Carthage.
Wray, R. B., M.D., Nevada.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Ahlefeld, Chas. B., M.D., Kansas City.
Allen, William B., M.D., Kansas City.
Anderson, Richard W., M.D., Kansas City.
Baer, Alvin J., M.D., Kansas City.
Beal, Homer A., M.D., Kansas City.
Becker, Richard R., M.D., Kansas City.
Bee, James E., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Berry, Maxwell G., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brams, Jack B., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Buhler, Victor B., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.
Caldwell, John K., M.D., Kansas City.
Carlson, Hjalmar E., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coburn, Donald F., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Cohen, Harry K., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Danglade, James H., M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Duncan, Ralph E., M.D., Kansas City.
Erni, Harry, M.D., Kansas City.
Eubank, D.M., M.D., Raytown.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Fowler, I. Charles, M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gard, Raymond F., M.D., Kansas City.
Ginsberg, Norman A., M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Gist, William W., M.D., Kansas City.
Glasscock, Ernest L., M.D., Kansas City.
Goodman, LeRoy, M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Griffith, George W., M.D., Garden City.
Growdon, John A., M.D., Kansas City.
Halperin, Phillip, M.D., Kansas City.
Hamilton, Eugene, M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogan, Daniel F., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hollweg, K. C., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Howard, John C., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M.D., Kansas City.
Johnston, Paul N., M.D., Kansas City.
Kerr, Russell W., M.D., Kansas City.
Klein, Edward H., M.D., Kansas City.
Kranson, Seymour J., M.D., Kansas City.
Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lacy, Eugene N., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Levey, Harry B., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Marks, Mark M., M.D., Kansas City.
McAlester, A. W., M.D., Kansas City.
McClanahan, Robert C., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Miller, Gerald L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morest, F. Stanley, M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.

Myers, Robert M., M.D., Kansas City.
Nelson, Charles S., M.D., Kansas City.
Owens, Guy E., M.D., Kansas City.
Parker, Hubert M., M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Perry, Ralph, M.D., Kansas City.
Richardson, Lyman K., M.D., Kansas City, Kansas.
Robb, Thomas P., M.D., Kansas City.
Robinson, E. Kip, M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Roy, Gustave A., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Schutz, Richard B., M.D., Kansas City.
Sheldon, John, Jr., M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.
Stockwell, Arthur L., M.D., Kansas City.
Stofer, Dar D., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Swisher, Robert C., M.D., Kansas City.
Tasker, Charles, M.D., Kansas City.
Underwood, Johnson J., M.D., Kansas City.
Unger, Harold, M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.
Wilkinson, E. A., M.D., Kansas City.
Willhelmy, E.W., M.D., Kansas City.
Wilson, F. I., M.D., Kansas City.
Wood, Laurence E., M.D., Kansas City, Kansas.
Wright, Robert Paul, M.D., Kansas City.
Ziegler, A.M., M.D., Kansas City.
Zellermayer, Jacob, M.D., Kansas City.
Zuber, Harold V., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Aker, Cecil G., M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Bagby, James W., M.D., St. Louis.
Bailey, W. H., M.D., St. Louis.
Barger, John A., M.D., Florissant.
Barnhart, W. T., M.D., St. Louis.
Barrett, Ralph M. S., M.D., St. Louis.
Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Bassman, Roland S., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Becker, George H., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Berger, Edward J., M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Birsner, Louis J., M.D., St. Louis.
Bockelman, Clifford H., M.D., Brentwood.
Boedeker, Roy V., M.D., St. Louis.
Boemer, Lilburn C., M.D., St. Louis.
Bortnick, Arthur R., M.D., St. Louis.
Bressler, Bernard, M.D., St. Louis.
Brown, Seymour, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Carney, Joseph E., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Catanzaro, Anthony F., M.D., St. Louis.
Charles, B. H., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Conrad, Adolph H., Jr., M.D., St. Louis.
Cordonnier, Justin J., M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Cutler, Harold M., M.D., St. Louis.
Dalton, Arthur R., M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Devereaux, James A., M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dobbs, Otto R., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Echterhoff, Harry R., M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eidelman, J. Robert, M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.
Fletcher, Paul F., M.D., St. Louis.
Flynn, George T., Jr., M.D., St. Louis.
Ford, Lee J., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Frankel, Sol I., M.D., St. Louis.
Franklin, Max S., M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.
Freimuth, L. E., M.D., St. Louis.
Freund, Samuel J., M.D., St. Louis.
Friedewald, Vincent E., M.D., St. Louis.
Furlow, Leonard T., M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Graul, Elmer G., M.D., St. Louis.
Gray, William H., M.D., Yakima, Wash.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Gunn, Walter T., M.D., St. Louis.
Harbison, Samuel P., M.D., Sewickley, Pa.
Hall, Lee A., M.D., St. Louis.
Hall, Robert A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hamilton, Eugene G., M.D., St. Louis.
Hamlett, Wm. H., M.D., St. Louis.
Hampton, Oscar P., M.D., St. Louis.
Hampton, Stanley P., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Hartnett, Dalton C., M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Hawker, Wm. D., M.D., St. Louis.
Hennelly, John J., M.D., St. Louis.
Hermann, Morris, M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Jacobi, Franklin E., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Jensen, J. Ernst, M.D., St. Louis.
Jordan, Edward J., M.D., St. Louis.
Jost, Charles A., M.D., St. Louis.
Jostes, Frederick A., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Keffler, Karl L., M.D., St. Louis.
Keller, Louis, M.D., St. Louis.
Keller, Robert M., M.D., St. Louis.
Kelly, R. Emmet, M.D., St. Louis.
Kelly, Robert W., M.D., St. Louis.



Gentle menopausal therapy

Gentle natural therapy of the menopause, relatively free from untoward side effects may be obtained conveniently and economically with ESTINYL (ethinyl estradiol), an oral estrogen closely related to the true follicular hormone.

ESTINYL

By virtue of its origin and composition ESTINYL favors an easy and calm transition, and yet because of its great oral potency dispels climacteric symptoms rapidly. For the average menopausal patient one tablet of 0.05 mg. daily is usually sufficient, but two or three tablets may be used if required.

ESTINYL Tablets are best administered at bedtime. Available in two strengths—0.05 mg. (pink) and 0.02 mg. (buff) tablets. Bottles of 100, 250 and 1000.

Trade-Mark ESTINYL—Reg. U.S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD · N.J.
In Canada, Schering Corporation Limited, Montreal



WHEN the menopausal storms set in—vasomotor disturbances, mental depression, unaccountable pain and tension—physicians today can take prompt, positive action to alleviate symptoms.

By the administration of a reliable solution of estrogenic substances, you may exert a gratifying measure of control.

For control of menopausal symptoms, you may turn with confidence to Solution of Estrogenic Substances, Smith-Dorsey . . . manufactured in the fully equipped, capably staffed Smith-Dorsey Laboratories . . . meeting rigid standards of purity and potency.

With such a medicinal, you can indeed *do something* about "stormy weather."

SOLUTION OF *Estrogenic Substances*

SMITH-DORSEY

Supplied in 1 cc. ampuls and 10 cc. ampul vials representing potencies of 5,000, 10,000 and 20,000 international units per cc.



THE SMITH-DORSEY COMPANY

LINCOLN • NEBRASKA

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

Kirtz, Louis, M.D., St. Louis.
Kirstein, Melvin B., M.D., St. Louis.
Klein, Andrew G., M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Knight, Wm. A., Jr., M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Krebs, Joseph M., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Lattuada, Henry P., M.D., Danville, Ill.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
Londe, Sol, M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
Luedde, Philip S., M.D., St. Louis.
Lyman, Edward H., M.D., St. Louis.
Macnish, James M., M.D., St. Louis.
Malles, Conrad, M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
McAdam, Charles R., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
McGuire, Wm. A., M.D., St. Louis.
Marmor, William, M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Max, Paul, M.D., St. Louis.
Max, Paul F., M.D., St. Louis.
Meador, J. R., M.D., Clayton.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Michael, Vernon E., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mistachkin, Norman L., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mueller, Clarence E., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
Obermeyer, Charles G., M.D., St. Louis.
O'Neil, Geo. J., M.D., St. Louis.
O'Reilly, Daniel E., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.
Patton, John F., M.D., St. Louis.
Pelz, Mort D., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Piekarski, Anthony A., M.D., St. Louis.
Post, Cyril A., M.D., St. Louis.
Potashnick, Robert, M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Quirin, Warren S., M.D., St. Louis.
Raines, Oney C., Jr., M.D., Gulfport, Miss.
Ready, James H., M.D., Clayton.
Reh, Edward P., M.D., St. Louis.
Reich, Harry A., M.D., St. Louis.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Roche, Maurice B., M.D., St. Louis.
Rosenfeld, Henry, M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Rouse, David M., M.D., St. Louis.
Rusk, Howard A., M.D., New York City.
Sanders, Robert D., M.D., St. Louis.
Sargent, Emanuel N., M.D., St. Louis.
Satterfield, Val B., M.D., St. Louis.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schuck, Carl A., M.D., Hamilton, Ohio.
Schulein, Vernon E., M.D., St. Louis.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Scott, Wendell G., M.D., St. Louis.

YOU CAN'T OVERRATE THE VALUE OF CONTROL



When you come to think of it, it's surprising how much control means. In various forms it adds enjoyment to sports—security to daily routine—satisfaction to work of skill.

And as *quality control* it assures safety in medicines. This is particularly well demonstrated in the development and production of U.D. pharmaceuticals. For throughout modern U.D. laboratories and plants a carefully conceived and remarkably efficient system of tests and checks results in products with an enviable reputation for consistent excellence.

Credit for maintenance of these high standards rests with a body of doctors, chemists and pharmacists, known as the Formula Control Committee. As the ultimate precaution, this group personally checks every finished product.

Such professional attention insures that your prescriptions are filled with finest ingredients when you specify U.D. pharmaceuticals. Your neighborhood Rexall Drug Store offers this service—together with complete facilities for meeting your patients' needs reliably and economically.

UNITED-REXALL DRUG CO.

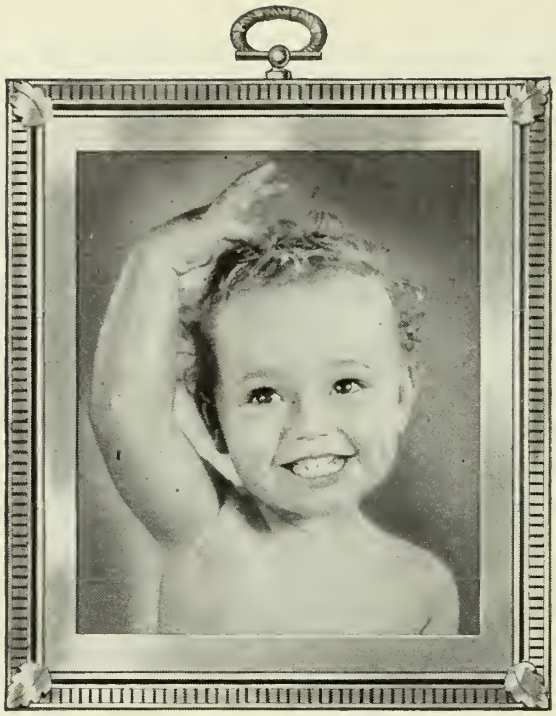
Rexall DRUGS

U.D. products are available wherever you see this sign

PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

Las Angeles • Basten • St. Lauis • Chicago • Atlanta • San Francisco
Portland • Pittsburgh • Ft. Worth • Nottingham • Taranto • So. Africa

UNITED-REXALL DRUG COMPANY AND YOUR REXALL DRUGGIST • *Your Partners in Health Service*



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft HOMOGENIZED EVAPORATED MILK
ACCEPTED AMERICAN MEDICAL ASSN.

Senturia, Ben D., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Smith, Hugh R., M.D., St. Louis.
Steubner, Roland W., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stindel, C. E., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Strub, Giles J., M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Susanka, Wm. Dee, M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Tremain, Irl G., M.D., St. Louis.
Trigg, Jos. F., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Vaughan, J. Russell, M.D., St. Louis.
Virant, John A., M.D., Ladue.
Vitt, Edwin F., M.D., St. Louis.
Walton, Franklin E., M.D., St. Louis.
Warson, S. R., M.D., St. Louis.
Wasserman, Helman C., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weiner, David O., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.
Wood, Bennett R., M.D., St. Louis.
Wulff, George J. L., Jr., M.D., St. Louis.

DEATHS

Crider, Adolphus J., M.D., Dixon, a graduate of St. Louis University School of Medicine, 1910; member of Pulaski County Medical Society; aged 60; died December 2, 1945.

Van Stavern, DeWitt C., M.D., Kansas City, a graduate of Chaddock School of Medicine, 1886; member of Jackson County Medical Society; aged 85; died December 9, 1945.

Kluegel, William A., M.D., St. Louis, a graduate of Washington University School of Medicine, 1908; member of St. Louis Medical Society; aged 63; died December 16, 1945.

Henke, August F., M.D., St. Louis, a graduate of Missouri Medical College, 1896; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 72; died December 19, 1945.

Coleman, Henry T., M.D., Pattonville, a graduate of Washington University School of Medicine, 1895; member of St. Louis County Medical Society; aged 61; died December 19, 1945.

Harrison, Edmund Lee, M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1892; member of Jackson County Medical Society; aged 82; died December 23, 1945.

Angell, William E., M.D., Rocheport, a graduate of Missouri Medical College, 1897; member of Boone County Medical Society; aged 70; died December 27, 1945.

Hume, Edwin L., M.D., Bourbon, a graduate of Barnes Medical College, 1905; honor member of Phelps-Crawford Counties Medical Society; aged 81; died January 2.

Northcutt, James R., M.D., Knox City, a graduate of the College of Physicians and Surgeons, Keokuk, Ia., 1878; honor member of Knox County Medical Society; aged 90; died January 3.

Ravenal, Mazyck P., M.D., Columbia, a graduate of the Medical College of the State of South Carolina, 1884; member of Boone County Medical Society; Fellow of the American Medical Association; Emeritus Professor of Medicine, University of Missouri; aged 85; died January 14.

Ferguson, Arthur D., M.D., Benton, a graduate of Barnes Medical College, 1906; member of Scott County Medical Society; aged 71; died January 14.

NOW PENICILLIN-C.S.C.

CRYSTALLINE SODIUM SALT

- ★ Requires No Refrigeration
- ★ Pain upon Injection Minimized, Even in High Dosages
- ★ Well Tolerated and Effective Subcutaneously
- ★ Potency Clearly Stated on Label



NOTE THESE ADVANTAGES:

- Since refrigeration is not required, the physician's bag may now contain penicillin in the form of Penicillin-C.S.C. Crystalline Sodium Salt, so that administration may be made immediately at the first call, if indicated.
- Because of its high purity Penicillin-C.S.C. Crystalline Sodium Salt may be given in high dosage (200,000 units) by aerosol administration.

Available in serum-type vials containing 100,000, 200,000, or 500,000 units

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

Penicillin-C.S.C. is accepted by the Council on Pharmacy and Chemistry of the American Medical Association

PHARMACEUTICAL DIVISION

COMMERCIAL SOLVENTS Corporation

17 East 42nd Street New York 17, N. Y.

S·I·M·I·L·A·C

Similar to human milk



★The name is never abbreviated; and the product is not like any other infant food—notwithstanding a confusing similarity of names.

The fat of Similac has a physical and chemical composition that permits a fat retention comparable to that of breast milk fat (Holt, Tidwell & Kirk, Acta Pediatrica, Vol. XVI, 1933) . . . In Similac the proteins are rendered soluble to a point approximating the soluble proteins in human milk . . . Similac, like breast milk, has a consistently ZERO curd tension . . . The salt balance of Similac is strikingly like that of human milk (C. W. Martin, M. D., New York State Journal of Medicine, Sept. 1, 1932). *No other substitute resembles breast milk in all of these respects.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

McGuire, Clarence A., M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1913; member of Jackson County Medical Society; Fellow of the American Medical Association; aged 61; died January 16.

Becker, William H., M.D., St. Louis, a graduate of Missouri Medical College, 1898; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 70; died January 21.

Drake, A. J., M.D., Lancaster, a graduate of Barnes Medical College, 1902; member and former president of Schuyler County Medical Society; aged 61; died January 26.

Bristow, Harry G., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1925; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 57; died February 6.

Campbell George K., M.D., Kansas City, a graduate of George Washington University School of Medicine, 1930; member of Jackson County Medical Society; aged 41; died February 7.

Strickland, William R., M.D., Rockport, a graduate of Marion-Sims College of Medicine, St. Louis, 1898; honor member and former president of Atchison County Medical Society; Fellow of the American Medical Association; aged 76; died February 9.

O'Malley, William F., M.D., Webster Groves, a graduate of University of Maryland School of Medicine and College of Physicians and Surgeons, 1916; former president of St. Louis County Medical Society; Fellow of the American Medical Association; aged 59; died February 12.

Hall, Frank J., M.D., Kansas City, a graduate of Kansas City Medical College, 1900; honor member of Jackson County Medical Society; aged 79; died February 25.

Dillman, Lucius M., M.D., Houston, a graduate of University of Illinois College of Medicine, 1934; former secretary-treasurer of Texas County Medical Society; Fellow of the American Medical Association; aged 41; died March 1.

Dudley, Carl E., M.D., St. Louis, a graduate of Washington University School of Medicine, 1898; member of St. Louis Medical Society; Fellow of the American Medical Association; aged 73; died March 26.

Jacobi, Franklin E., M.D., St. Louis, a graduate of National University of Arts and Sciences Medical Department, St. Louis, 1913; member of St. Louis Medical Society; aged 67; died April 2.

LEGISLATION

DOCTOR PREFIX BILL

To prohibit the use by any person licensed to practice medicine, surgery, dentistry, optometry, osteopathy, chiropractic, chiropody, or veterinary surgery, or any two or more of such professions, and any person permitted to practice the curing, healing or remedying of ailments, defects or diseases of body or mind, from using the prefix "Doctor" or "Dr." in connection with his name in any letter, business card, advertisement, prescription blank, sign or public listing or display without affixing thereto suitable words or letters designating the degree held by such person or the particular type of practice in which such persons is engaged which designation shall represent the profession such person is legally authorized to practice, making violation of the Act a misdemeanor and fixing the punishment threfor, and providing that the Act shall not apply to the use of said prefix by doctors of letters, doctors of science, doctors of law, doctors of divinity, or doctors of philosophy not practicing the curing, healing or remedying of bodily or mental ailments, defects or diseases.

Section 1. No person now or hereafter licensed in this state to practice medicine, surgery, dentistry, optometry, osteopathy, chiropractice, chiropody, or veterinary surgery, or any two or more of such professions,

Advertisement



From where I sit
by Joe Marsh

Bird's-Eye View of America

A fellow took an aerial photograph of our town, and Dr. Hollister says it makes the place look like Utopia.

Folks argued that the new firehouse would never look well beside the old Town Hall. But they harmonize perfectly from the air. One side of the railroad tracks looks as good as the other. All the different landmarks blend in nicely with the surroundings.

From where I sit, there's a lesson in that photograph. A community's made up of different elements—people as well as landmarks. Some vote one way, some another; some enjoy a glass of beer and others don't. You might think there was a lot of reason for friction.

But it's all in your point of view. Get up high enough—see the community as a whole—and those discords blend together into what we call America—a free, harmonious land. The differences only look big to people who see them from too close!

Joe Marsh

Copyright, 1946, United States Brewers Foundation

and no persons specifically permitted by law to practice the curing, healing or remedying of ailments, defects or diseases of body or mind with or without a license, shall use the prefix "Doctor" or "Dr." in connection with his name in any letter, business card, advertisement, prescription blank, sign or public listing or display of any nature whatsoever, without affixing thereto suitable words or letters clearly designating the degree held by such person or the particular type of practice in which such person is engaged which designation shall represent the profession such person is authorized to practice by license or privilege under the laws of this state.

Section 2. Nothing contained in this Act shall prohibit the use of such prefix by any person holding the degree of doctors of letters, doctor of science, doctor of law, doctor of divinity, or doctor of philosophy, provided such person does not practice the curing, healing, or remedying of ailments, defects or diseases of body or mind.

Section 3. Any person who shall violate the provisions of this Act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by fine of not more than five hundred dollars ($500.00) or imprisonment in the county jail for not more than six months, or by both such fine and imprisonment. Each day upon which this Act shall be violated shall be and constitute a separate offense and shall be punishable in like manner with each other offense.

AMERICAN ACADEMY OF PEDIATRICS STUDY OF CHILD HEALTH SERVICES

In November 1944, the American Academy of Pediatrics at its national meeting held in St. Louis, Missouri, decided that in order to make the best effort to assure children the care they need in the postwar period, systematic planning to provide that care must take place. It is felt that the physicians themselves should assume the responsibility for such planning as they are the ones who know what constitutes good medical service. Since adequate data are lacking, it was decided that an evaluation of existing conditions should be the first step. Therefore, the American Academy of Pediatrics has undertaken a nationwide Study of Child Health Services. In Missouri the work is sponsored by the Missouri Section of the Academy of Pediatrics.

Soon a short questionnaire will be sent to every practicing physician in the state. These should be filled out promptly and returned. The plan for the study was first presented in Missouri and it is hoped that Missouri will be first in interest shown and in returns.

Park J. White, M.D.,
American Academy of Pediatrics.
State Co-Chairman for Missouri

INFANTILE PARALYSIS IN SUMMER CAMPS

A summer camp where poliomyelitis has occurred need not be shunned, according to *The Journal of the American Medical Association. The Journal* states:

"The means of spread of the virus of infantile paralysis has not been worked out completely. It is, however, recognized that the disease is not one due to a 'place infection' but is transmitted from person to person probably both directly and through vectors. Therefore there would appear to be no reason for not recommending a summer camp, because cases were reported there during the previous year."



An Invitation to Beauty

We cordially invite you to discuss your beauty potential with the Cosmetic Consultant who distributes our products in your community. Beauty, we feel, is an intimate subject—one that is best discussed in the privacy of your home.

Too often, we are inclined to take ourselves for granted. It somehow escapes us that our outward appearance reflects our personality, our individuality, our ideas; that it is wonderfully adaptable to change, to improvement. We have a tendency to regard our physical aspects for all the world as though they were the drapes in the living-room which we intend to change one of these days, when we get around to it, for something more up-to-date and colorful. We put it off and put it off—and why?

Seeing ourselves as others see us helps immeasurably to arrive at that all-important detached viewpoint without which the art of self-improvement is greatly hampered. And it is here that the Cosmetic Consultants who distribute our products can be of real service to you; for, in effect, you see yourself through their eyes, aided by our Selection Questionnaire which, as it is answered, unfolds a word picture of your type and condition of skin and of your coloring, viewed cosmetically.

Since the outward appearance reflects the inner woman, every care should be taken to fulfill its beauty potential.

A card addressed to Luzier's, Inc., Kansas City 3, Missouri, will put you in touch with the Cosmetic Consultant in your community. It will be her pleasure to help you select beauty preparations suited to your individual requirements and preferences, and to suggest how they should be applied to achieve the loveliest cosmetic effect—your beauty potential.

LUZIER'S, INC.,

Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI

Over 37 Years . . .
Builders and Fitters of
Artificial Limbs and
Orthopaedic Appliances

Isle Built Appliances restore the highest possible degree of efficiency to patients who have suffered amputation or other physical impairment.
Your instructions followed implicitly.
Qualified, courteous personnel.

ENTIRE SECOND FLOOR PHONE VICTOR 2350

THE W. E. ISLE COMPANY
1121 GRAND AVE. KANSAS CITY, MO.

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only

IMMEDIATE DELIVERY
McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps —Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service
Phone for Demonstration
EDMUND F. HANLEY—Distributor
1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.



HANGER
(Patented)
HIP CONTROL LEG
DURALUMIN AND WILLOW LIMBS
MECHANICAL ARMS
TRUSSES - CANES
CRUTCHES - INVALID CHAIRS
Illustrated Catalog On Request
J. E. HANGER, INC.
1912 Olive St.
Phone: Central 1088
St. Louis 3, Mo.

SOCIETY PROCEEDINGS

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

Howell-Oregon-Texas-Wright-Douglass Counties Medical Society

The South Central Counties Medical Society held a dinner meeting at the El Patio Hotel in Cabool on March 15. The following members and visitors were present: Drs. J. R. Mott, H. G. Frame, L. T. Van Noy, J. A. Fuson, R. W. Denny, R. A. Ryan, Leslie Randall, C. F. Callihan, L. M. Edens, Rollin H. Smith, E. C. Bohrer, A. C. Ames, Garrett Hogg, and Drs. L. V. Ackerman and D. V. LeMone of the Ellis Fischel State Cancer Hospital of Columbia.

A card was read from Mrs. Dillman expressing her appreciation of our sympathy in her recent bereavement, and the following resolution was adopted:

WHEREAS, Our beloved fellow physician, L. M. Dillman, has by a serious accident been taken from us and his field of usefulness right in his prime of life, and his little daughter almost met the same fate, be it

RESOLVED, By the South Central Counties Medical Society in meeting at Cabool, March 15, 1946, that we feel sincere sorrow at his departure and hereby express our heartfelt sympathy to his family and the whole community, in their great loss, and be it further

RESOLVED, That these resolutions be spread upon the records of our society and a copy sent to the bereaved family.

It was voted that at meetings hereafter the society pay for the dinner for Dr. Ames in appreciation of his work as secretary.

Drs. Ackerman and LeMone showed a large collection of pictures of cancer and ulcer of the stomach and discussed the work of the Cancer Hospital at Columbia.

A vote of thanks was given Drs. Ackerman and LeMone, and the meeting adjourned with the next meeting to be held in Mountain Grove on April 19.

A. C. AMES, M.D., Secretary.

MISCELLANEOUS ANNOUNCEMENTS

WANTED: Doctor for railway examination car. Trip over road requires 2½ to 3 months. Good salary and expenses. Address Box No. 148, Missouri State Medical Association, 623 Missouri Theatre Bldg., 634 N. Grand, St. Louis 3, Mo.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky
Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.
MENTAL patients have every comfort that their home affords.
The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.
NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.
E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

FAITH HOSPITAL
A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR
2800 N. Taylor St. Louis, Mo.
GOodfellow 6262

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

OFFICERS 1946-1947

President, Mrs. W. E. Koppenbrink, Higginsville.
President-Elect, Mrs. W. L. Allee, Eldon.
1st Vice President, Mrs. John O'Connell, Overland.
2nd Vice President, Mrs. H. C. Trippe, Kansas City.
3rd Vice President, Mrs. Richard Crouch, Columbia.
4th Vice President, Mrs. W. F. Vehler, Cape Girardeau.
Recording Secretary, Mrs. Roy C. Dripps, St. Louis.
Treasurer, Mrs. R. C. Porter, North Kansas City.
Auditor, Mrs. J. I. Byrne, St. Joseph.
Press and Publicity, Mrs. Harry M. Gilkey, Kansas City.
Circulation Manager, Mrs. George Thiele, Kansas City.
National Bulletin, Mrs. W. H. Zeigler, Boonville.
Legislation, Mrs. David Enloe, Jefferson City.
Essay Contest, Mrs. F. G. Pernoud, St. Louis.
Revisions, Mrs. David S. Long, Harrisonville.
Courtesy, Mrs. E. E. Wadlow, St. Joseph.

THE PRESIDENT'S MESSAGE

Dear Auxilary Members:

The time has come for me to address you for the first time through this column as your president. When I took office in St. Louis, I fully realized the great responsibility that was mine. To pilot this great Woman's Auxiliary through the coming year will be my task.

As we face the beginning of a new year, the last twelve months lie behind us as a panorama of service, usefulness and visions materialized. Let us all work to gain even greater heights during the next twelve months. A year is all too short for any president to carry through all her aims and ambitions. It is my privilege to carry on the work that Mrs. Gilkey has so well accomplished. Her enthusiasm and eagerness for expansion and growth have spurred me with a great desire to organize as many counties as possible and thus increase our membership.

To be a member of the Woman's Auxiliary is a great privilege and every doctor's wife in Missouri should be given that opportunity.

An increase in membership will naturally help sell *Hygeia*. The value of *Hygeia*, the Health Magazine, as a source of authentic information on health for the layman cannot be too frequently or too strongly stressed. When you pay your dues, subscribe to *Hygeia*. It is money well spent. Let all of us help our State *Hygeia* Chairman, Mrs. O. A. Carron.

This year is important in medical legislation. The Woman's Auxiliary can do a great deal to assist in promoting beneficial legislation and combatting that which is undesirable by speaking with your congressman or writing to him, and by discussing the bills with women of other organizations. The health bills are so far-reaching and revolutionary that they deserve the careful consideration of every voting citizen.

I have chosen for a slogan for the year "Service with Happiness." Happiness is the goal of every human being. As wives of doctors, our happiness can be achieved only through our comrade's happiness. His life is one of service to the suffering; our first duty is to him and his profession. By a program of Service, we serve our husbands and humanity and achieve for ourselves that joy, inspiration, comradeship and understanding that can come only when we give a life of Service. Let every member realize her responsibility and give her Service with Happiness to the Woman's Auxiliary.

Mrs. W. E. Koppenbrink.

ESSAY CONTEST FOR 1945 AND 1946

We are just finishing the 14th annual Essay Contest sponsored by the Auxiliary to the Missouri State Medical Association and I, as essay chairman, want to tell some of the interesting things about it.

When the essays began arriving the last part of January I would place a number on the essay and on the slip of paper that was on each essay, with the writer's name, address, and the name of the high school he attends. The essays were then taken to a Social Medical worker, who was given a chart by which all of the essays were graded. After reading them all, they were then returned to me and the 60 with the highest grades were then divided into six packs of ten each and sent to the preliminary judges. These men were superintendents of Missouri high schools and they read them and returned them with their grades. They were then taken to our President, Mrs. Harry M. Gilkey, and one of our advisers, Dr. Herbert L. Mantz, who read all 60 of them, and then they agreed, with the help of the grading of the other judges that certain numbers were the winners.

Thirty-three counties were represented in the contest with 60 different high schools taking part. Twenty-one counties were represented in the first sixty essays and seven were among the fifteen winners.

Two hundred and forty-one essays were sent in and were read by the first judge. I have a record that over five hundred were written, but some schools sent only the ones they considered the best. One hundred and eighty-one girls and 60 boys submitted essays. Jackson County was first with 50 essays; Clay, second with 45, and St. Louis, third with 25.

The winners were:

Dorothy McAleer, Northeast High School, Kansas City, first place, and will receive a $100 Victory bond; L. Harlene Wellman, Kirksville High School, Kirksville, second place, and will receive a $50 Victory bond; three awards of a $25 Victory bond each were won by Daphne Adams, Central High School, Kansas City; Jerre Mueller, Westport High School, Kansas City, and Patricia Marie Agnew, St. Vincent's High School, Perryville. Ten students receiving honorable mention are: Rose Marie May and Roger Lueckenhoff, St. Vincent's High School, Perryville; Isabel Crichlow and Wilbur Holmes, Hickman High School, Columbia; Audrey Geisy, Northeast High School, and Dolores Willard, Westport High School, Kansas City; Peggy Jeane Montgomery, Hornersville High School, Senath; Jo Ann Line, Springfield High School, Springfield; Mary Virginia Robinson and Leland Morris, Versailles High School, Versailles. All of the winners will receive an appropriate pin.

Mrs. R. C. Porter.

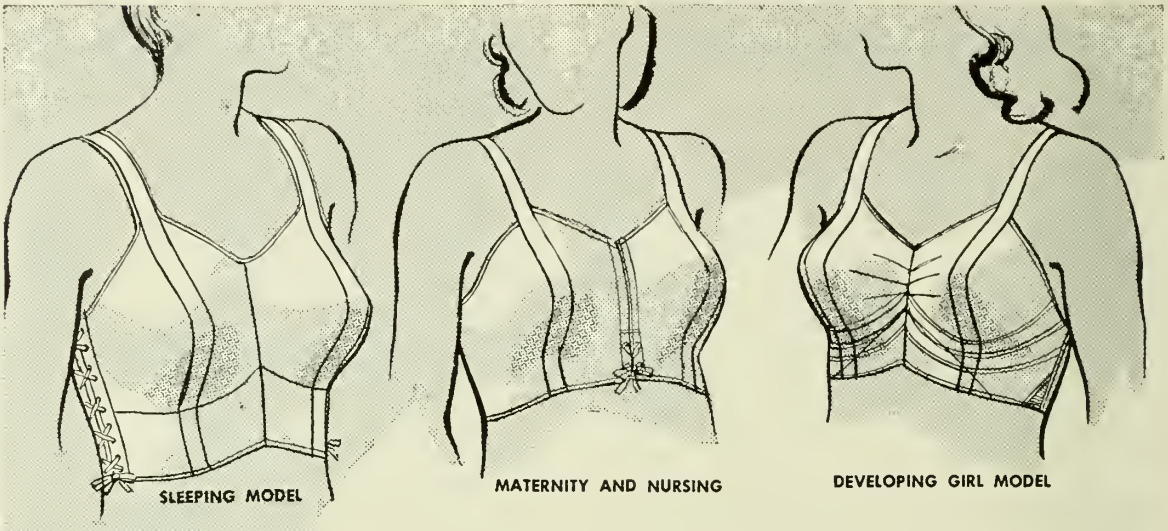
BOOK REVIEW

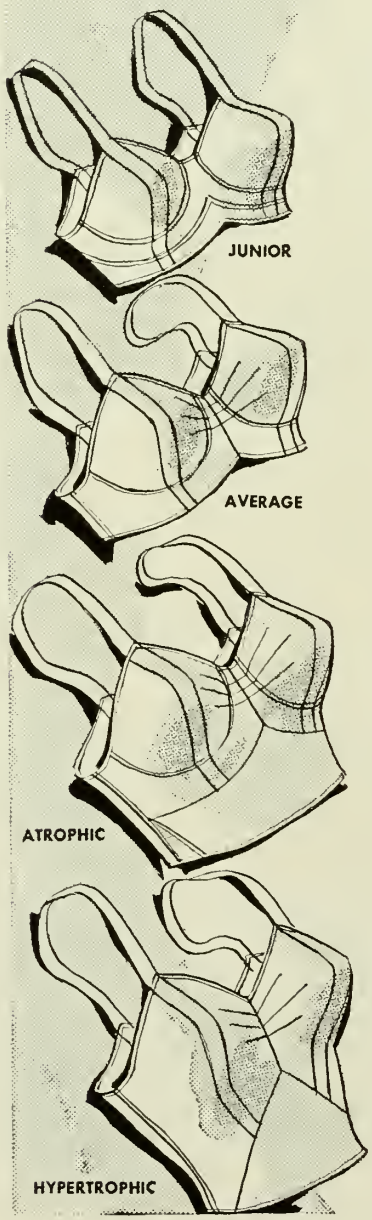
Textbook of Surgery. By American Authors. Edited by Frederick Christopher, B.S., M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School, Chief Surgeon, Evanston (Illinois) Hospital. 1483 illustrations on 762 figures. Fourth Edition, revised and reset. Philadelphia and London: W. B. Saunders Company. 1945. Price $10.00.

This standard textbook of surgery has been revised and reset into a two column page for more rapid reading. The fine illustrations have been retained and more added along with two new sections, one on Military Surgery by Churchill and the other on Chemotherapy by Lockwood of Yale.

Up to date material is furnished by authorities in their fields on burns, shock, vascular tissue tumors, tumors of the sympathetic system, breast and gastrointestinal tract. The sections on dislocations and fractures, tumors of the islands of Langerhans, varicose veins and venous thrombosis have been extensively revised.

M. S. H.





Lov-é **CORRECTIVE** *Brassieres*

IN MORE THAN 500 SIZE VARIATIONS

CUSTOM-FITTED TO THE INDIVIDUAL IN EXACT ACCORDANCE WITH THE PHYSICIAN'S INSTRUCTIONS, THESE SUPPORTS ARE THE MOST HIGHLY SPECIALIZED AVAILABLE AND A DEFINITE AID TO TREATMENT.

SPECIAL MODELS PROVIDE HYGENIC REMEDIAL SUPPORT FOR SPECIFIC BREAST CONDITIONS. ALSO AVAILABLE: AMPUTATION MODELS, ARTIFICIAL BREASTS, MUSCLE PADS, HOSPITAL BINDERS, MATERNITY GARTER SUPPORTS.

ALL LOV-E' PRODUCTS ARE EXPERTLY FITTED BY COMPANY-TRAINED LOV-E' BRASSIERE TECHNICIANS. LOV-E' MODELS HAVE BEEN DEVELOPED DURING 14 YEARS OF MEETING THE REQUIREMENTS OF THE MEDICAL PROFESSION. MADE BY LOV-E' BRASSIERE COMPANY, HOLLYWOOD, CALIFORNIA.

LOV-E SECTION CORSET DEPARTMENT

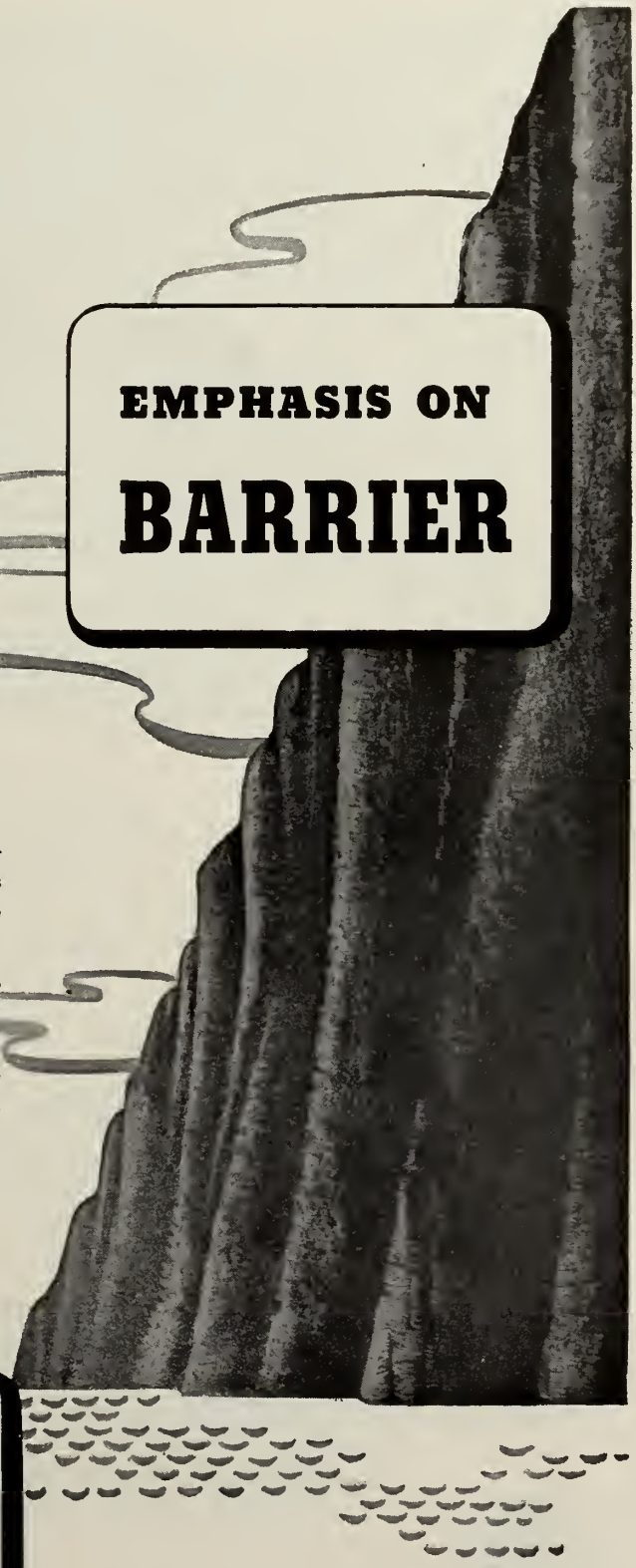
FAMOUS-BARR CO., ST. LOUIS

AUTHORITATIVE clinical investigators place strong emphasis on the importance of the barrier in conception control.

In a recent comprehensive report[1] physicians indicated an overwhelming preference for the diaphragm and jelly method (93% of 36,955 new cases).

In keeping with these expressed opinions we continue to suggest that for the optimum in protection the physician prescribe the combined use of occlusive diaphragm and spermatocidal jelly.

You assure your patient a product of highest quality when you specify Ramses



Competent observers report:

"Jellies and creams used without mechanical devices yield relatively high protection, but studies have not proven them fully dependable to block the external os, or to invalidate all sperm."[2]

"When no type of occlusive pessary can be fitted, or when the woman refuses to use one, the only other reliable method is the use of the condom. With proper technic and instruction this method is highly reliable but has many disadvantages which the diaphragm method overcomes."[3]

1. Clinic Reports: Planned Parenthood Services in the United States. Human Fertility 10: 25 (Mar.) 1945.
2. Dickinson, R.L.: Techniques of Conception Control. Baltimore, Williams and Wilkins Co., 1942.
3. Warner, M.P.: J.A.M.A. 115: 279 (July 27) 1940.

gynecological division

JULIUS SCHMID, INC.

423 West 55 Street • New York 19, N. Y.

QUALITY FIRST SINCE 1883

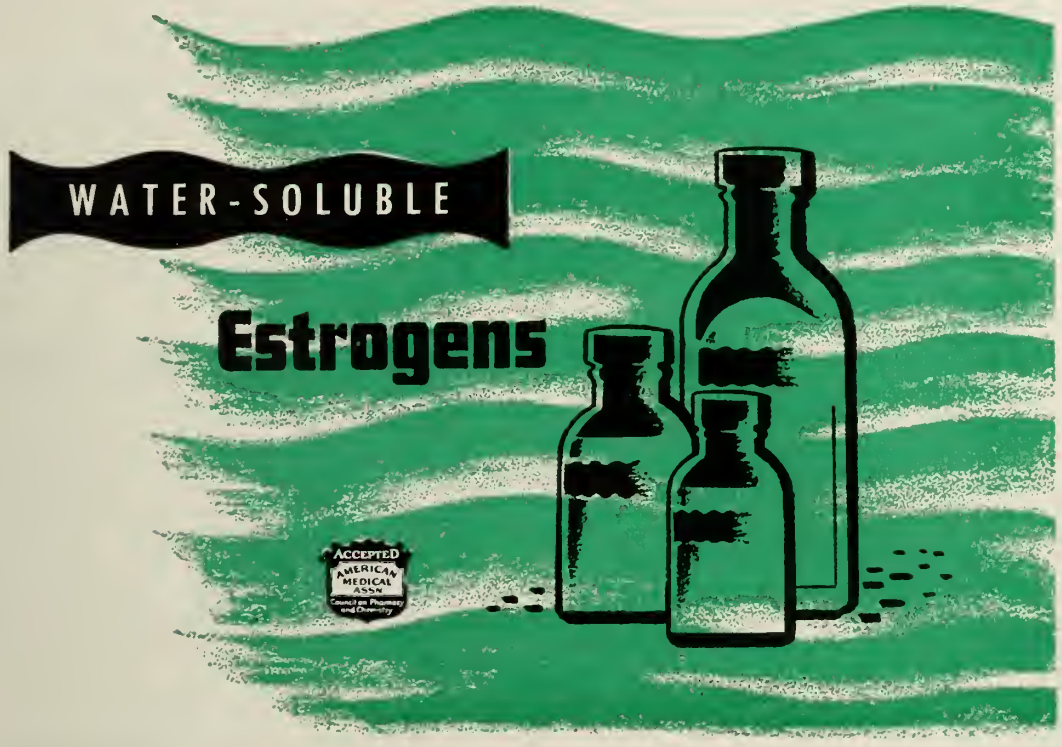
Excellence

resides in quality,
not in quantity.

By
the *quality*
of its Defense
The Medical Protective Company
excels
in preserving
a Doctor's Reputation, Property and Earning Power
against Damage
from Malpractice charges



THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA



Estrogens are excreted by the kidney not as free chemical compounds but as *conjugates.* In this natural form, the equine estrogens . . . estrone, estradiol, equilin, equilenin, and hippulin . . . are present as water-soluble sulfates which are highly active when administered orally. Under hydrolysis, however, the conjugation is destroyed and the estrogens are converted to free chemical compounds which are water insoluble and comparatively inactive orally.

In "PREMARIN", the equine estrogens are carefully protected against hydrolysis to preserve their highly desirable characteristics. "PREMARIN", therefore, is *water soluble* and orally effective, making possible the control of menopausal symptoms with tablet or liquid medication.

An extensive bibliography on "PREMARIN" attests to its high therapeutic effectiveness, its comparative freedom from toxicity, and to the fact that treatment is usually followed by a general feeling of well-being.

"Premarin"

REG. U. S. PAT. OFF.

CONJUGATED ESTROGENS (equine)

Tablet No. 866 (1.25 mg.) Tablet No. 867 (Half-Strength) (0.625 mg.)
Liquid No. 869 Each teaspoonful is equivalent in potency to one "Premarin" Half-Strength Tablet

Ayerst

AYERST, McKENNA & HARRISON Limited • 22 EAST 40TH STREET • NEW YORK 16, N.Y.

Cook County Graduate School of Medicine
(IN AFFILIATION WITH COOK COUNTY HOSPITAL)
Incorporated not for profit
Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting June 17, July 15, July 29, and every two weeks thereafter. Four Weeks Course in General Surgery starting July 15, August 12, September 9. One Week Surgery Colon and Rectum starting June 10. One Week Course in Thoracic Surgery starting May 13 and June 3.

GYNECOLOGY—Two Weeks Intensive Course starting September 23. One Week Personal Course in Vaginal Approach to Pelvic Surgery starting June 10 and September 16.

OBSTETRICS—Two Weeks Intensive Course starting September 9.

MEDICINE—Two Weeks Intensive Course starting May 13 and June 17.

ELECTROCARDIOGRAPHY & HEART DISEASE—Two Weeks Intensive Course starting August 5.

GASTROSCOPY & GASTROENTEROLOGY—Two Weeks Personal Course June 3.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting May 20.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.



Certified GIEMSA STAIN

Inspected and approved by COMMISSION ON STANDARDIZATION OF BIOLOGICAL STAINS

Prepared according to the formula of L. R. Lillie, Jl. Lab. & Clin. Med. 28:15, 1872-1875, (Dec.) 1943.

Our Giemsa Stain is made in our own laboratories and is fully equal to any made anywhere in the world. Exclusively prepared to provide the hematologist with a product of unquestionable reliability and uniformity. We invite your inquiries.

Write for our complete catalog of Laboratory Reagents and supplies.



GRADWOHL
LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.

Effective
Convenient
Economical

THE effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use. For professional convenience Mercurochrome is supplied in four forms—Aqueous Solution in Applicator Bottles for the treatment of minor wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome

(H. W. & D. brand of merbromin, dibromoxymercurifluoresceln-sodium)

is economical because stock solutions may be dispensed quickly and at low cost. Stock solutions keep indefinitely.

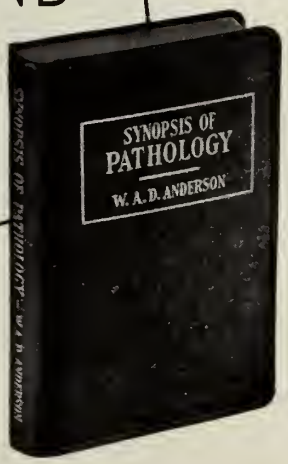
Mercurochrome is antiseptic and relatively non-irritating and non-toxic in wounds.

Complete literature will be furnished on request.



HYNSON, WESTCOTT & DUNNING, INC.
BALTIMORE, MARYLAND

New
SECOND
Edition



Anderson's
SYNOPSIS
of PATHOLOGY

by W. A. D. ANDERSON, M.A., M.D., F.A.C.P. Professor of Pathology and Bacteriology, Marquette University School of Medicine; Pathologist, St. Joseph's Hospital, Milwaukee, Wisconsin. 730 pages, 327 illustrations, 15 color plates. Price, $6.50.

For this new second edition, the author has revised carefully, considering all chapters, and bringing his material completely up to date. Seventy-four new illustrations have been added, together with four new color plates.

Throughout, greater emphasis has been given to "tropical diseases" and conditions important in war medicine. The chapters dealing with viral, rickettsial, spirochetal, mycotic, protozoal, and helminthic infections have been enlarged and made more inclusive, and other subjects, such as epidemic hepatitis and blast injuries, have been given attention. The chapters dealing with inflammation, the lung, and the nervous system also have received extensive revision.

READY THIS MONTH

Order Now!

THE C. V. MOSBY COMPANY
3207 Washington Boulevard
St. Louis 3, Missouri

MJ 5/46

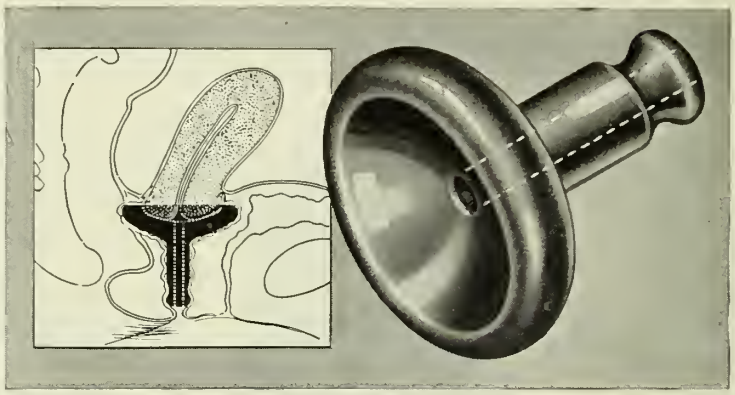
Gentlemen: Reserve my copy of the new 2nd Edition Anderson's
SYNOPSIS OF PATHOLOGY, $6.50
and send it to me as soon as it comes from the press.

.... Attached is my check. .... Charge my account.

Name .....

Address .....

An Improved Device for Treatment of Inoperable Uterine Prolapse



The Emmert-Gellhorn Pessary with new drainage features

In this modification by Dr. Frederick V. Emmert, the original Gellhorn pessary for relief of inoperable prolapse has been improved with great success. The new pessary is made of one piece of Neicomold, a boilable synthetic material, unbreakable, smooth and unaffected by the genital secretions. Neither does it irritate or affect the vaginal mucosa. Instead of a solid stem, the Emmert-Gellhorn pessary employs a stem drilled throughout its length. This offers the advantage of drainage, preventing accumulation of secretions. Fewer removals of the pessary for cleaning are thus needed; a great benefit to aged patients. For greater comfort, the stem is ¼ inch shorter than that of the former pattern, and has no knob. The stem, however, is hollowed to permit easy grasp for removal.

8E5162A—Emmert-Gellhorn Pessary, diameter 2 or 2½ inches, state size, each.....**$2.25**

8E5162B—Special Sizes—2¼, 2¾ or 3 in., each.**$2.75**

A. S. ALOE COMPANY

1831 Olive St. — St. Louis 3, Mo.



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.
Medical Director

225 Sheridan Road — Phone Winnetka 211



In the Nutrition Problems of
CHRONIC CHOLECYSTITIS

Because of the low fat intake which is frequently necessary, many foods and beverages are denied the patient with chronic gall bladder disease. If dietary curtailment becomes too drastic, however, nutritional deficiencies are apt to develop, adding further complications and physical discomfort.

The delicious food drink prepared by mixing Ovaltine with skim milk provides many of the nutrients considered essential in hepatobiliary disease, without appreciably increasing the fat intake. Its biologically adequate protein, readily utilized carbohydrate, B complex and other vitamins, as well as essential minerals aid in satisfying the need for these nutrients. This readily digested food supplement makes a nutritionally excellent as well as delicious component of the extra feedings which are frequently required in the management of chronic cholecystitis.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



Ovaltine

Three servings daily of Ovaltine, each made of ½ oz. of Ovaltine and 8 oz. of skim milk*, provide:

CALORIES	426	VITAMIN A	2058 I.U.
PROTEIN	32.3 Gm.	VITAMIN B_1	1.16 mg.
FAT	2.5 Gm.	RIBOFLAVIN	1.55 mg.
CARBOHYDRATE	66.3 Gm.	NIACIN	6.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	400 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

*Based on average reported values for skim milk.

A HOT PACK APPARATUS
that does its work in two minutes!

No fuss or bother. Lift lid. Drop packs into perforated metal basket.

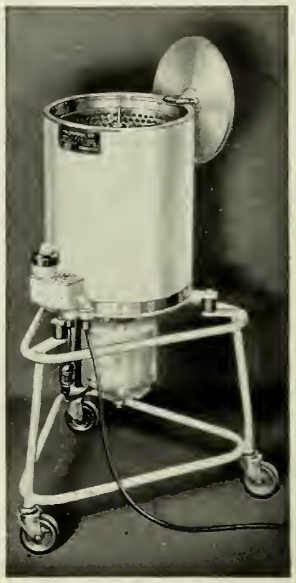
Snap on switch. The basket rotates in an atmosphere saturated with steam.

Packs become very hot in this insulated tank, but **never become wet** due to the centrifugal action of the basket. Water in lower half of tank boils by means of an electric heater to produce the required steam.

For a quick, neat method of preparing hot packs requiring less personnel to operate, arrange for a demonstration.

Write Otis V. Bennett—no obligation.

OTIS V. BENNETT
630 Pearl Ave. Kirkwood 22, Missouri



The Emerson **Hot Pack** Apparatus
J. H. Emerson Company



THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. Brinson, M.D.
Medical Director

•

Walter R. Wallace
Business Manager

The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.

DEPENDABILITY...the most important quality in a contraceptive

the extra assurance
with every tube of
Koromex Jelly

TIME TESTED
CLINICAL
RECORD



with confidence

prescribe...

ACTIVE INGREDIENTS: Boric acid 2.0%, oxyquinolin benzoate 0.02% and phenylmercuric acetate 0.02% in a base of glycerin, gum tragacanth, gum acacia, perfume and de-ionized water.

write for literature

HOLLAND-RANTOS CO., Inc.
551 FIFTH AVENUE • NEW YORK 17, N. Y.

Dependable Estrogen Therapy with

Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)



Schieffelin BENZESTROL Tablets:
Potencies of 0.5, 1.0, 2.0 and 5.0 mg.
Bottles of 50, 100 and 1000.

Schieffelin BENZESTROL Solution:
Potency of 5.0 mg. per cc. in 10 cc.
Rubber Capped Multiple Dose Vials

Schieffelin BENZESTROL Vaginal Tablets:
Potency of 0.5 mg. Bottles of 100

For the relief of menopausal symptoms, for senile vaginitis, for the suppression of lactation, and as a supplementary agent in the treatment of gonorrheal vaginitis in children, estrogen therapy has proved highly beneficial. A dependable means of administering such therapy may be found in Schieffelin BENZESTROL.

This synthetic estrogen has proved valuable in effecting more rapid and gratifying results where estrogen therapy is indicated.

Schieffelin BENZESTROL is available for oral, parenteral and local administration.

Literature and Sample on Request

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 Cooper Square New York 3, N. Y.

The Norbury Sanatorium

Established 1901 — Incorporated —
Licensed — Jacksonville, Illinois

• **ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.**



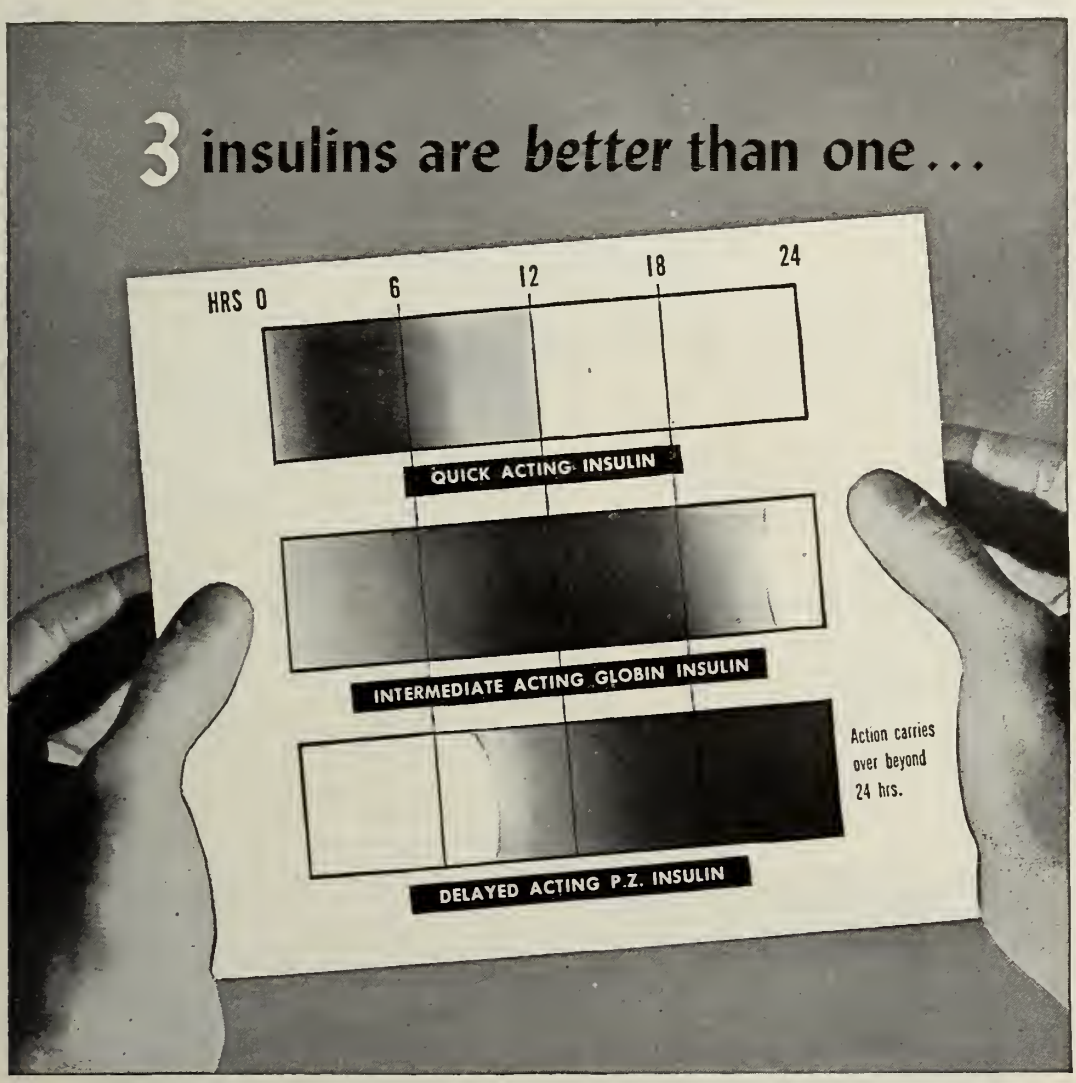


Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.



THE PHYSICIAN treating diabetes today has the choice of three types of insulin. One is rapid-acting but short-lived. Another is slow-to-start but prolonged. Intermediate between them is the new 'Wellcome' Globin Insulin with Zinc which starts fairly promptly and continues *for sixteen hours or more.* Action is maximal during the times of major carbohydrate intake but diminished toward bedtime so that the likelihood of nocturnal reactions is decreased. Today, the physician is wise to consider all *three* insulins.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its freedom from allergenic properties.

Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in the Wellcome Research Laboratories, Tuckahoe, New York. U.S. Patent No. 2,161,198. Available in vials of 10 cc., *80 units in 1 cc.* and vials of 10 cc., *40 units in 1 cc.* Literature on request.

'Wellcome' Trademark Registered

'WELLCOME'
Globin Insulin
WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 and 11 EAST 41ST STREET, NEW YORK 17

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM PHYSICIANS SURGEONS DENTISTS ALL CLAIMS GO TO

$5,000.00 accidental death	**$ 8.00**
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	**$16.00**
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	**$24.00**
$75.00 weekly indemnity, accident and sickness	quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address

Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.



CASE HISTORY

White female, age 63. Marked desquamation of skin on both hands (4 months duration), chills, temperature 101.4 F., leukocyte count of 10,400, eosinophiles 4%, lymphangitis of upper extremities, left supraclavicular lymphadenitis.

DIAGNOSIS: Eczematous dermatitis of unknown etiology (both hands), lymphangitis of upper extremities, and left supraclavicular lymphadenitis.

TREATMENT: 15,000 units Penicillin administered intramuscularly every 3 hours for 7½ days, plus massive wet dressings on upper extremities.

PENICILLIN

for SECONDARY INFECTIONS in ECZEMATOUS DERMATITIS

Secondary infections in eczematous dermatitis respond to treatment with penicillin when the condition is complicated with organisms susceptible to penicillin.

Bristol Penicillin, with its low toxicity and freedom from pyrogens, its absolute sterility and standard potency, provides dependable therapeutic action.

For additional current literature on the clinical uses of this potent antibiotic, refer to *your* issues of the BRISTOL PENICILLIN DIGEST.

Other products of Bristol Laboratories include high-type parenteral medications such as Epinephrine Hydrochloride, Liver Injection, Estrogenic Substance in Oil, and Phenobarbital Sodium.

BRISTOL LABORATORIES INCORPORATED

SYRACUSE 1, NEW YORK

LOYAL PROTECTIVE LIFE INSURANCE COMPANY
BOSTON, MASS. **SINCE 1895**

NON-CANCELLABLE and GUARANTEED RENEWABLE INCOME PROTECTION

Policies with 6 Essential Features

Low Net Cost Retirement Income Contracts

W. A. Steward, Dist. Mgr.
7510 Delmar Ave.
St. Louis, Mo.

Lysle Kindig, Gen. Agt.
1202 Insurance Exch. Bldg.
Kansas City, Mo.

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913



LEG MAKE-UP FOR THE *ALLERGIC PATIENT*

3 SHADES
- PEACHGLOW (LIGHT)
- RIO (MEDIUM)
- SUNGLOW (DARK)

AR-EX COSMETIC HOSE contains no rosin, aniline dyes, or other known skin irritants. Goes on smoothly, does not rub off, but is easily removed with soap and water. *Send for Free Formulary.*



FREE FORMULARY
DR._____
ADDRESS_____
CITY_____
STATE_____

AR-EX COSMETICS, INC. 1036 W. VAN BUREN ST. CHICAGO 7, ILL.

THE MARY E. POGUE SCHOOL

For Retarded or Exceptional Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

51 Geneva Road Wheaton, Illinois Phone Wheaton 66



Third Degree

In severe thermal burns, when protein needs far exceed the limits of dietary toleration, Parenamine provides extra-dietary amino acids to restore and maintain positive nitrogen balance and correct hypoproteinemia.*

Parenamine

AMINO ACIDS STEARNS, PARENTERAL

For protein deficiency

PARENAMINE is a sterile 15 per cent solution of amino acids containing all known to be essential for humans, derived by acid hydrolysis from casein, fortified with pure *dl*-tryptophane.

INDICATED in conditions of restricted intake, faulty absorption, increased need or excessive loss of proteins such as in preoperative and postoperative management, extensive burns, delayed healing, gastro-intestinal disorders, fevers, et cetera.



ADMINISTRATION may be intravenous, intrasternal or subcutaneous.

SUPPLIED as 15 per cent sterile solution in 100 cc. rubber-capped bottles.

**Reprints and complete clinical data will gladly be sent on request.*

Frederick Stearns & Company
Division
DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Parenamine* Reg. U. S. Pat. Off.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

Zemmer
PRESCRIBE OR DISPENSE
ZEMMER PHARMACEUTICALS
A complete line of laboratory controlled ethical pharmaceuticals. Mo. 5-46
Chemists to the Medical Profession for 44 years.
THE ZEMMER COMPANY
Oakland Station • PITTSBURGH 13, PA.

BUY VICTORY BONDS

ALCOHOL—MORPHINE—BARBITAL
ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM
529 Highland Ave. Kansas City, Mo.
Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.



"Circumstances over which I have ~~no~~ control"

The unpredictable can of course always happen in surgery —but by rigid adherence to aseptic routine and the use of an effective antiseptic, such as Tincture Metaphen, the surgeon can control the ever-present threat of infection. In Tincture Metaphen you have a very real assurance of high antiseptic power, prolonged action and relative freedom from tissue irritation. There are other outstanding qualities you will also appreciate—its distinctive orange stain clearly delineates the operative field —it does not affect surgical instruments or rubber goods, is quite stable when exposed to air—and *now costs far less than ever before.* Tincture Metaphen 1:200 is available through hospital and prescription pharmacies in bottles containing 1 fluidounce, 4 fluidounces, 1 pint and 1 gallon. Abbott Laboratories, North Chicago, Illinois.

(Tincture of 4-nitro-anhydro-hydroxy-mercury-orthocresol, Abbott)

Tincture Metaphen

REG. U. S. PAT. OFF.

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY



A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.



AMERICA'S AUTHORITY ON VITAMINS

Who is he? The American physician. It is he who is *qualified* to diagnose vitamin deficiency disease, to treat or prevent it with suitable amounts of the indicated vitamins.

Therefore, to the end that White's vitamin products may contribute most effectively to American well being, information concerning these preparations, like all White's pharmaceuticals, is entrusted to the profession alone.

Our promotion does not deviate from the *strictly* ethical.

PHARMACEUTICAL White LABORATORIES, INC. NEWARK 7, N. J. MANUFACTURERS

Boston Medical Library
8 Fenway



WHEN interviewed between platefuls, this 11-months-old young man emphatically stated: "I have been brought up on Pablum and still like it, but some days when I'm in the mood for oatmeal, nothing satisfies me like Pabena!"

Nutritious, quick and easy to prepare, both products are for sale at drug stores.

MEAD JOHNSON & COMPANY, EVANSVILLE, IND., U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 6

JUNE, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Highlights and Problems Related to Medical Care of Veterans
Dermatitis Resulting From Exposure to DDT
Endocrine Problems in Gynecology
Barnes Hospital Case Report
The Need for the Hill-Burton Bill

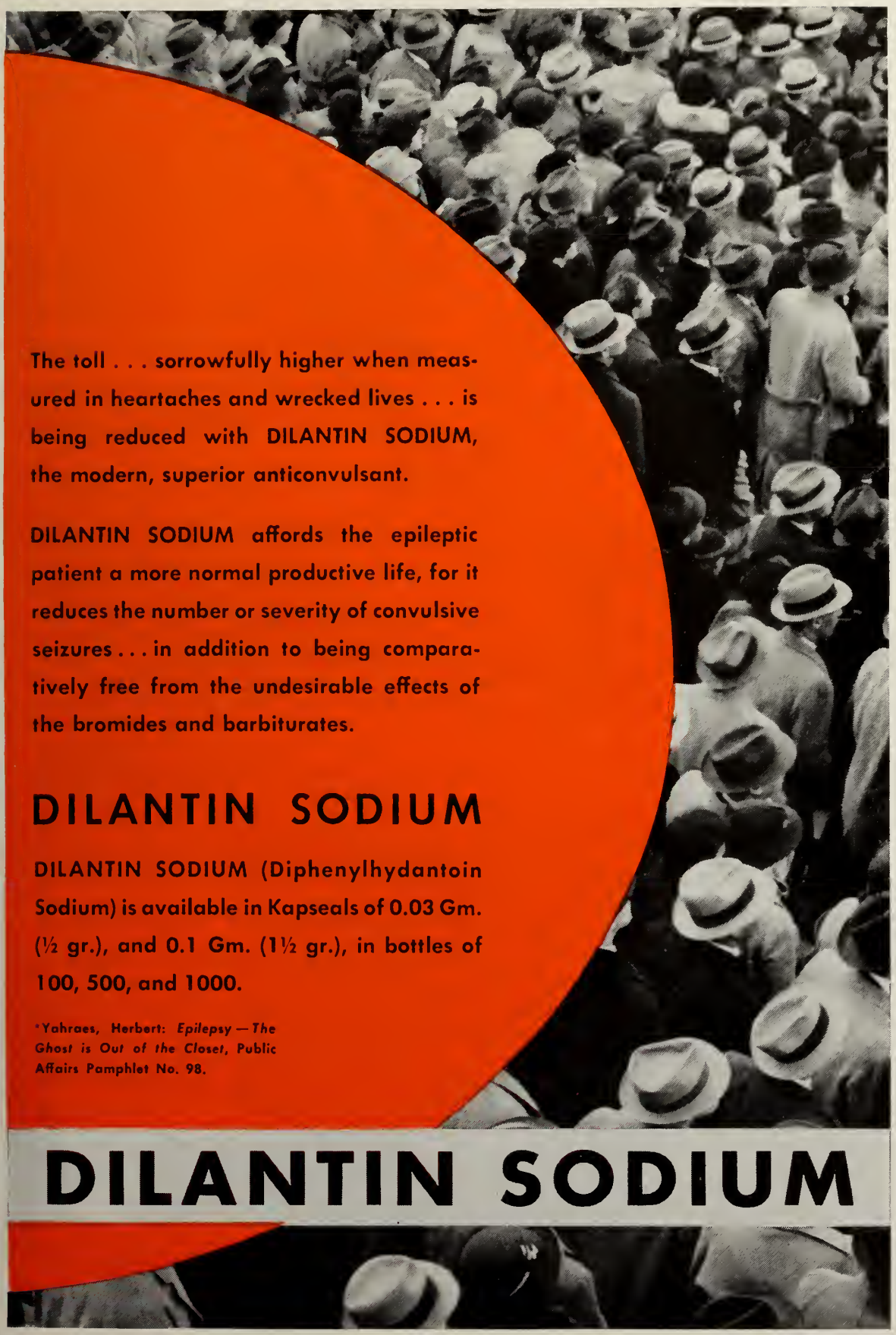
BOSTON
MEDICAL LIBRARY

EDITORIALS

Urgent
A Salute to the Missouri Legislature

(Contents Index Page 369)


ONE
OUT OF EVERY 200 PERSONS
is an epileptic. Economic loss, measured in money, is tremendous — amounting to $60,000,000 annually.*
100 No. 362
KAPSEALS
DILANTIN
SODIUM
DIPHENYL
HYDANTOIN
SODIUM
0.1 Gram
(1½ grains)
PARKE DAVIS & CO.
DETROIT, MICH. U.S.A.
PARKE, DAVIS & COMPANY
DETROIT 32
MICHIGAN



The toll . . . sorrowfully higher when measured in heartaches and wrecked lives . . . is being reduced with DILANTIN SODIUM, the modern, superior anticonvulsant.

DILANTIN SODIUM affords the epileptic patient a more normal productive life, for it reduces the number or severity of convulsive seizures . . . in addition to being comparatively free from the undesirable effects of the bromides and barbiturates.

DILANTIN SODIUM

DILANTIN SODIUM (Diphenylhydantoin Sodium) is available in Kapseals of 0.03 Gm. (½ gr.), and 0.1 Gm. (1½ gr.), in bottles of 100, 500, and 1000.

*Yahraes, Herbert: *Epilepsy—The Ghost is Out of the Closet*, Public Affairs Pamphlet No. 98.

DILANTIN SODIUM



YOU

..ARE THE JUDGE..



AND JURY....



It is in the physician's office—at the patient's bedside—in the hospital—that the worth of pharmaceutical preparation is evaluated; that claims and promises are balanced against performance.

The many members of the medical profession—and they comprise a significant percentage of doctors in the United States—who have through the years used and prescribed U. S. Standard Products, have come to know and appreciate their unvarying dependability; their practical usefulness and economy; the conservatively fresh and unusual approach to therapeutic problems.

Avoiding exploitation of the merely "new" or "different," each research advance solidly buttressed by clinical or rational experimental evidence, U. S. Standard Products embody the best of the new and the traditional to provide the physician with the type of medication he has found effective in clinical practice.

OUTSTANDING U. S. STANDARD BIOLOGICALS:

Diphtheria Toxoid • Smallpox Vaccine

Tetanus Antitoxin • Typhoid Vaccine

Also a representative list of glandular products and pharmaceuticals.

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.

CONTENTS

Highlights and Problems Related to Medical Care of Veterans. J. C. Harding, M.D., Washington, D. C. 381

Dermatitis Resulting From Exposure to DDT. A Preliminary Report. Garold V. Stryker, M.D., and Bernard Godfroy, M.D., St. Louis..... 384

Endocrine Problems in Gynecology. Robert J. Crossen, M.D., St. Louis..... 386

Case Report of Barnes Hospital. W. Barry Wood, Jr., M.D., and Robert A. Moore, M.D., Editors, St. Louis 391

Special Article—
The Need for the Hill-Burton Bill. A. L. Hansen, M.D., Appleton City 396

Abstracts and Digests—
Tuberculosis Abstracts 399

Cancer Clinics at the Ellis Fischel State Cancer Hospital 401

Book Reviews 401

Editorials—
Urgent 403

A Salute to the Missouri Legislature..... 403

News Notes 404

Physicians Returned From Military Service..... 404

Legislation 411

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Roger I. Lee, Boston.
President-Elect, Harrison H. Shoulders, Nashville.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Harry C. Lapp, Kansas City, Chairman (1946); Nathan A. Womack, St. Louis (1945); Ralph L. Thompson, St. Louis.

Postgraduate Course—Raymond Muether, St. Louis, Chairman (1945); David LeMone, Columbia (1946); G. T. Bloomer, St. Joseph (1946); Guy D. Calloway, Springfield (1947).

Publication—R. L. Thompson, St. Louis, Chairman; W. A. Bloom, Fayette; Robert Mueller, St. Louis; J. William Thompson, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis (1946); W. Merritt Ketcham, Kansas City (1947); Robert Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1945).

Defense—Charles E. Hyndman, St. Louis, Chairman (1945); O. B. Zeinert, St. Louis (1946); L. P. Forgrave, St. Joseph (1946); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1946); F. L. Kneibert, Poplar Bluff (1946); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947); James R. McVay, Kansas City (1945).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1946); Paul F. Cole, Springfield (1946); David S. Dann, Kansas City (1945).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1946); C. A. W. Zimmermann, Cape Girardeau (1946); W. F. Francka, Hannibal (1947); Ira H. Lockwood, Kansas City (1945).

Mental Health—B. Landis Elliott, Kansas City, Chairman (1946); Frank M. Grogan, St. Louis (1946); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947); Ralf Hanks, Nevada (1945).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1946); Buford G. Hamilton, Kansas City (1946); J. Milton Singleton, Kansas City (1947); H. B. Goodrich, Hannibal (1947); Joseph D. James, Springfield (1945).

Infant Care—U. J. Busiek, Springfield, Chairman (1945); Park J. White, St. Louis (1946); E. H. Schorer, Kansas City (1946); Damon O. Walthall, Kansas City (1945); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1946); Grayson Carroll, St. Louis (1946); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1945).

Constitution and By-Laws—O. S. Gilliland, Kansas City, Chairman (1947); B. Landis Elliott, Kansas City (1947); Joseph C. Peden, St. Louis (1946); G. T. Bloomer, St. Joseph (1946); H. L. Mantz, Kansas City (1945).

Fractures—Frank D. Dickson, Kansas City, Chairman (1946); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947); James D. Horton, Springfield (1945); J. R. Elliott, Kansas City (1945).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1946); Philip S. Luedde, St. Louis (1945); Robert S. Minton, St. Joseph (1946); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1946); Arthur W. Neilson, St. Louis (1946); W. S. Sewell, Springfield (1945); C. T. Ryland, Lexington (1947); Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1945); E. C. Funsch, St. Louis (1946); E. M. Fessenden, St. Louis (1947); R. R. Oglevie, Kansas City (1945); J. E. Castles, Kansas City (1946).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); C. A. W. Zimmermann, Cape Girardeau (1947); John L. Washburn, Versailles (1946); Frank L. Feierabend, Kansas City (1945); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; W. W. Buckingham, Kansas City; J. L. Mudd, St. Louis (1945).

Study of Cardiac Diseases—J. DeVoine Guyot, Jefferson City, Chairman (1945); A. Graham Asher, Kansas City (1946); Julius Jensen, St. Louis (1947); E. J. Schisler, St. Louis (1945); Horace W. Carle, St. Joseph (1946).

Postwar Planning—M. Pinson Neal, Columbia, Chairman; Robert Mueller, St. Louis; Ira H. Lockwood, Kansas City (1945).

Adviser to Woman's Auxiliary—H. L. Mantz, Kansas City.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, *Iron*, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.



NO FALSE COLOR TO THE PICTURE

NOW THAT PENICILLINASE SCHENLEY

IS AVAILABLE TO CHECK RESULTS





• In determining the progress of penicillin therapy, inhibitory concentrations of penicillin in the blood and other body fluids may prevent satisfactory culture of infecting organisms. But PENICILLINASE SCHENLEY will inactivate the penicillin in an hour's time. Penicillin-sensitive bacteria can then grow and a dependable bacteriologic evaluation be made.

• PENICILLINASE SCHENLEY is now produced in quantities sufficient to supply the needs of all medical laboratories.

• It is the latest product of Schenley Laboratories' research program, which to date has borne fruit in superior penicillin and penicillin products.

SCHENLEY LABORATORIES, INC.

Producers of Penicillin Schenley • Schenley Pharmaceuticals

Executive Offices: 350 Fifth Avenue, N. Y. C.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	H. McClure Young	Columbia	F. C. Suggett	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5			Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoin	Kansas City	John A. Growdon	Kansas City
Jasper	8	R. C. Newkirk	Joplin	Marvin F. Hall	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto		
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



"I'll Be Right Over!"

...24 hours a day your doctor is "on duty"... guarding health... protecting and prolonging life...

• Plays... novels... motion pictures... have been written about the "man in white." But in his daily routine he lives more drama, and displays more devotion to the oath he has taken, than the most imaginative mind could ever invent. And he asks no special credit. When there's a job to do, he does it. A few winks of sleep... a few puffs of a cigarette... and he's back at that job again...

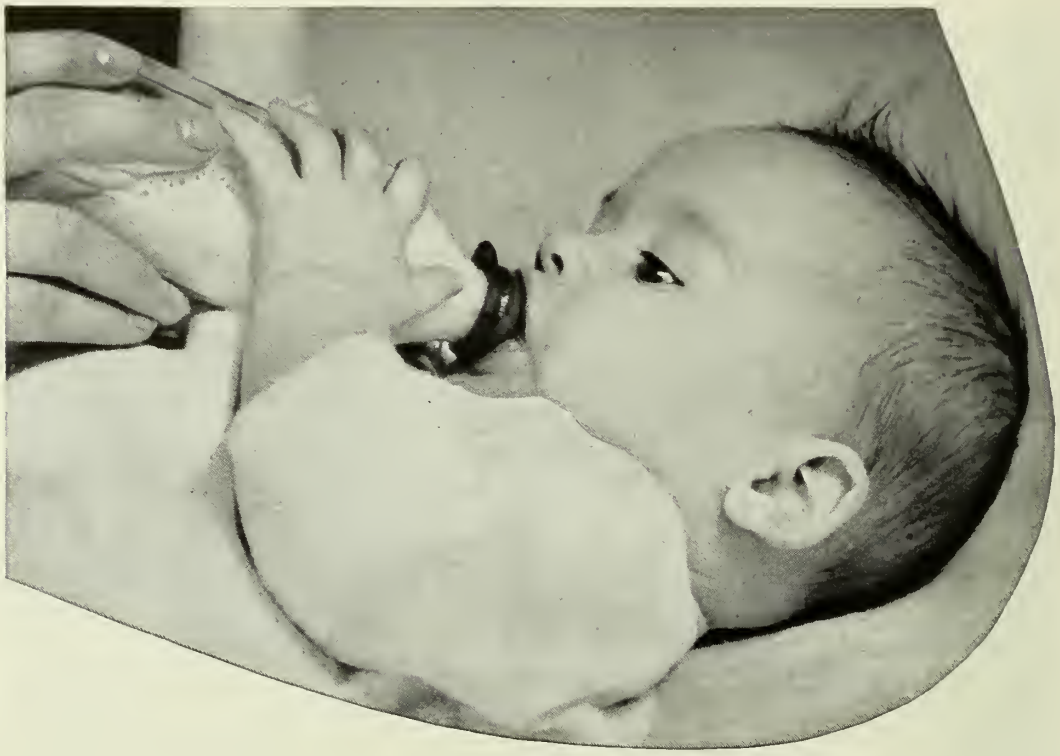


According to a recent independent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.



Silencer for midnight phones

When pediatricians prescribe 'Dexin' brand High Dextrin Carbohydrate for their infant patients, the physicians are no longer wakened so frequently by frantic late-night phone calls. Because of the high dextrin content, 'Dexin' feedings tend to (1) diminish intestinal fermentation and the resultant colic and diarrhea and (2) promote the formation of soft, flocculent, easily digested curds.

'Dexin' babies sleep more soundly, physicians' phones jangle less, and the doctor himself obtains more undisturbed sleep. Not unpalatably sweet, 'Dexin' is readily soluble in hot or cold milk or other bland fluids. 'Dexin' does make a difference.

'Dexin'
HIGH DEXTRIN CARBOHYDRATE

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available Carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.
'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U. S. A.) INC., 9 & 11 East 41st St., New York 17, N. Y.



Subject to change without notice

You can assure women who seek to avoid the nervous tension, emotional imbalance and mental depression of the menopause that modern estrogenic therapy brings symptomatic relief in many cases without undue pain or waste of time. When Abbott's Estrone Aqueous Suspension is used, a few injections are sufficient in many instances to keep the patient in comfort for weeks. Clinical experiments have shown that out of 44 women who received three weekly treatments, 43 experienced relief for three to sixteen weeks.[1] As Estrone Aqueous Suspension is prepared in an aqueous menstruum, it can be administered to women who are sensitive to the oils commonly used in other estrone products. You may obtain Estrone Aqueous Suspension through your pharmacy in 1-cc. ampoules containing 2.0 mg. of pure crystalline estrone.

ABBOTT LABORATORIES, NORTH CHICAGO, ILL.

1. Freed, S. C., and Greenhill, J. P. (1941), J. Clin. Endocrinol., 1:983, December.

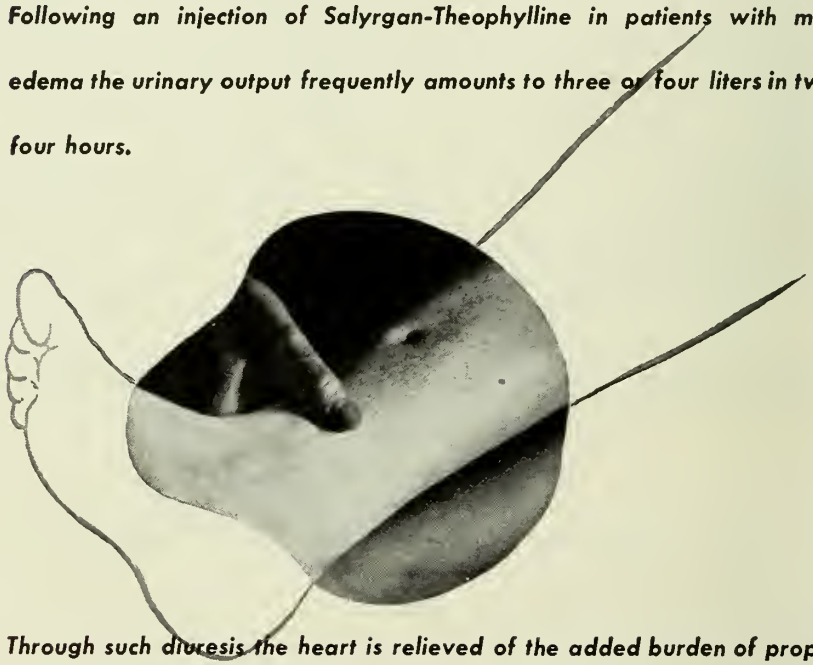
Estrone Aqueous Suspension, 2 mg.

For congestive heart failure:

NEXT IN IMPORTANCE TO DIGITALIS

In many cases of congestive heart failure mercurial diuretics are next in importance to digitalis in maintaining the patient's comfort and prolonging life.

Following an injection of Salyrgan-Theophylline in patients with marked edema the urinary output frequently amounts to three or four liters in twenty-four hours.



Through such diuresis the heart is relieved of the added burden of propelling the blood through the compressed blood vessels. The blood volume is decreased, and in all probability the efficiency of the heart is increased by elimination of myocardial edema.

•

Salyrgan-Theophylline is available in ampuls of 1 cc. and 2 cc. for intramuscular or intravenous administration . . . For oral use (as an adjunct to decrease the frequency of injections and when parenteral therapy is impracticable) tablets in bottles of 25, 100 and 500.

SALYRGAN-THEOPHYLLINE

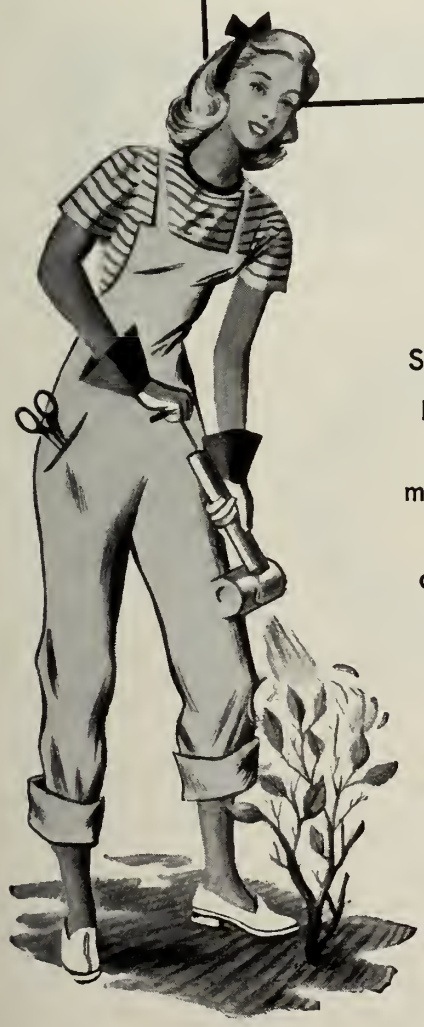
ACCEPTED AMERICAN MEDICAL ASSN

"Salyrgan" trademark Reg. U. S. Pat. Off. & Canada
Brand of Mersalyl and Theophylline

potent mercurial diuretic

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician
New York 13, N. Y. Windsor, Ont.

YOU CAN'T OVERRATE THE VALUE OF CONTROL



You probably know first-hand that it takes constant vigilance and scientific care to be sure of getting best results from your garden.

So, too, in the laboratory—in developing dependable pharmaceuticals. That's why quality control holds such a dominant position among the operations in modern U.D. research and production plants. From raw material inspection to final checking, every step of manufacture is guarded by one of the most detailed and successful control systems in the industry. Moreover, each finished U.D. formula is separately analyzed by the Formula Control Committee composed of doctors, chemists and pharmacists.

You may always be certain that your orders are filled with ingredients unexcelled in purity and potency when you indicate U.D. pharmaceuticals. Convenient Rexall Drug Stores provide these products—and offer skill and complete drug service to match their quality.

UNITED-REXALL DRUG CO.

Rexall DRUGS

U.D. products are available wherever you see this sign

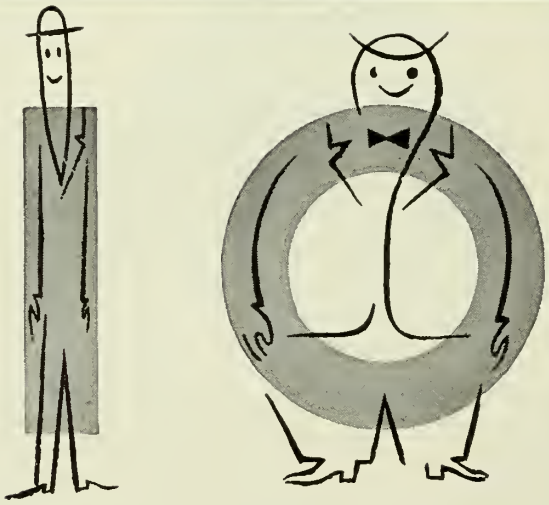
PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

Los Angeles • Boston • St. Louis • Chicago • Atlanta • San Francisco • Portland Pittsburgh • Ft. Worth • Nottingham, England • Toronto • So. Africa

UNITED-REXALL DRUG COMPANY AND YOUR REXALL DRUGGIST • *Your Partners in Health Service*



a common denominator for all restricted diets



All restricted diets must have one thing in common—vitamin adequacy—lest the patient's quest be thwarted by deficiency. Almost all restricted therapeutic diets have been found deficient in one or more of the essential vitamins. Supplementation is therefore mandatory in diets prescribed for obesity, allergies, peptic ulcer, and diabetes.[1] Easy to remember, easy to take, Upjohn vitamin preparations are potent, low cost aids in maintaining optimal vitamin intake during dietotherapy.

1. Handbook of Nutrition, Chicago A.M.A., 1943, p. 557.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS

CLAIMS
VS.
DIFFERENCES

WHAT value have claims of superiority unless there is a difference in formula or process to justify such claims?

Take cigarettes for example.

PHILIP MORRIS Cigarettes are *made* differently. In the clinic as well as in the laboratory, the *advantages* of PHILIP MORRIS have been repeatedly observed, repeatedly reported by *recognized authorities* in leading medical journals. Yes, PHILIP MORRIS *claims* superiority . . . *and that superiority has been proved.**

May we suggest that your patients suffering from irritation of the nose and throat due to smoking change to PHILIP MORRIS—*the one cigarette proved definitely less irritating.*

PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.,
119 FIFTH AVENUE, N. Y.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

TO THE DOCTOR WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.



full recovery through a miracle of distribution

THIS LITTLE GIRL will be up tomorrow. Ten days ago she was suddenly stricken with streptococcic septicemia. Her physician needed penicillin—plenty of it, right away. Fortunately, the drug store had a sufficient quantity in stock to start treatment. The pharmacist hurriedly called his service wholesaler, and an adequate supply of Penicillin, Lilly, was promptly available.

In over two hundred wholesale houses, in every corner of the nation, Penicillin, Lilly, is kept properly stored, ready for immediate delivery. Quick availability is vitally important in cases of desperate illness. Specify Penicillin, Lilly, through your favorite prescription pharmacy.

Lilly

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 JUNE, 1946 NUMBER 6

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; W. A. BLOOM, M.D.; ROBERT MUELLER, M.D.; J. WILLIAM THOMPSON, M.D.

HIGHLIGHTS AND PROBLEMS RELATED TO MEDICAL CARE OF VETERANS

J. C. HARDING, M.D.
WASHINGTON, D. C.

General Paul R. Hawley, Chief Medical Director of the Department of Medicine and Surgery of the Veterans Administration, regrets sincerely that his appointments in Washington prevent him from being here in St. Louis today to address you in person. At his request, and with your kind indulgence, it is an honor and a privilege to talk to you in his stead.

Speaking as the General's representative, I would like to present to you as briefly as possible the problem confronting the American people in providing medical care to veterans. It is a problem which involves the local communities and states as well as the Federal government. I also would like to outline briefly some of the highlights of our program in providing medical services to exservice men and women, to which they are entitled under existing legislation. It is the belief of General Bradley, Administrator of Veterans Affairs, that the Veterans Administration is and should remain merely an operating agency of the government whose sole function it is to carry out as effectively as possible the laws enacted by Congress in the interest of the veteran, except as there are conflicts in these laws or provisions which are impossible to carry out because of administrative difficulties. Then, and then only, should the Veterans Administration initiate legislation. The Administrator feels that other changes in existing laws should originate with the people of the United States. It is the responsibility of Congress to establish policies and enact laws pertaining to benefits for the veteran. It is the responsibility of the Veterans Administration to carry out the will of Congress, as expressed in these laws.

Colonel, Medical Corps.
Acting Assistant Medical Director.
Veterans Administration.
Presented at the 88th Annual Session of the Missouri State Medical Association,, March 24-26, 1946, St. Louis.

The magnitude of our task can be appreciated readily when it is realized there are at present 3,991,000 veterans of previous wars and 10,610,000 veterans of World War II. The number of veterans of World War II is increasing rapidly, having increased some seven and one-half millions in the last six months, and will continue to increase for some time in the future. There are still a few million veterans to be demobilized. Every person now enlisting in the Army, even though hostilities have ended, is a potential veteran and will receive all the benefits granted to veterans who served during hostilities. It is a conservative estimate that there will be sixteen or seventeen million veterans of World War II, which will make a total veteran load of more than 20,000,000 at the time World War II is ended officially.

One of the major problems of the Veteran Administration is to provide adequate hospital accommodations for our ever increasing veteran population.

Under existing law, veterans who served during a period of war may be hospitalized in Veterans Administration hospitals and other government hospitals with which the Veterans Administration has agreements for the treatment of any disease or injury for which hospital care is indicated. Veterans requiring hospital care for disabilities incurred in service are given preference. Those applying for treatment for nonservice connected conditions must make a sworn statement that they are unable to pay their own hospital expenses. Veterans also may be admitted to private or contract hospitals for the treatment of service connected disabilities, if their physical condition precludes travel to a Veterans Administration hospital or government facilities are not available. They cannot, however, be hospitalized in other than Federal hospitals for the treatment of nonservice connected conditions.

The foregoing applies to male veterans only, as exservice women not only are entitled to hospital care in veterans or other Federal hospitals, but

they may also be admitted to private or contract hospitals both for service connected and nonservice connected disabilities, if government facilities are not readily available.

While it will be noted that veterans may be furnished hospital care under certain conditions for nonservice connected disabilities, the law specifically provides that treatment on an outpatient basis, both for male and female veterans, may be furnished only for the relief of disabilities which were incurred or aggravated by service, or for conditions which may affect adversely a service connected disability.

In carrying out the provisions of the law governing hospitalization, the Veterans Administration is now caring for, either directly or through other authorized agencies, a total of 82,800 patients in hospitals. Of these 74,000 are in veterans hospitals and 8,800 are in other Federal, state and private hospitals. In addition to this patient load, the Veterans Administration is caring for approximately 13,000 veterans in domiciliary homes. This is a total load of approximately 95,000 veterans now in hospitals and domiciliary homes.

Of the total number of patients in hospitals, 39 per cent are World War II veterans and 61 per cent are veterans of other wars, the vast majority being veterans of Warld War I. Of all the patients now in hospitals 35 per cent have service connected disabilities and 65 per cent are receiving treatment for nonservice connected conditions. This proportion of service connected cases varies widely with the type of disability. For instance, 48 per cent of the cases of tuberculosis are service connected as against 52 per cent nonservice connected cases. Forty-one per cent of the neuropsychiatric cases in hospitals are service connected and 59 per cent nonservice connected. Of the general medical and surgical cases, only 15 per cent are receiving treatment for service connected disabilities.

If every service connected patient was admitted to private hospitals, it is estimated that at the present time less than 29,000 cases could be hospitalized. Even with this relatively small load of service connected cases it is doubtful whether or not there are enough vacant beds in private hospitals to care for them. This is certainly true in tuberculosis and neuropsychiatric cases because private and state hospitals are as badly overcrowded as our veterans hospitals. If we were to provide care for service connected general medical and surgical cases, we could at the present time contract in private hospitals of the United States for only about 5,400 beds.

Further, a large proportion of service connected patients have disabilities chronic in nature which require care for long periods of time. In general, private hospitals will not accept such types of cases and the only cases, therefore, we can treat in private hospitals under existing law are the relatively short duration cases whose disabilities are service incurred. The total number of these would not exceed 3,000 at the present time.

These facts are presented to you because it has been found that there is, throughout the country, much misunderstanding of the law governing hospitalization of veterans, and of what it is possible for the Veterans Administration to do under this law.

Another major problem has been our inability to secure sufficiently well trained professional personnel to staff our hospitals and regional offices. We have approximately 2,600 full time and part time doctors on duty, and it is estimated that we should have at least 5,000 physicians to take care of the work in 1947.

Under date of January 3 of this year, the President signed a bill known as Public Law No. 293 which provides for the establishment of a Department of Medicine and Surgery in the Veterans Administration and removes physicians, dentists and nurses employed in the Department from the control and regulations of the Civil Service Commission.

Among other things, the bill provides for postgraduate courses for professional personnel, not to exceed ninety days in any one year, and also provides for an additional allowance of 25 per cent over the basic salary of any person certified as a specialist by an American Specialty Board.

In the first six weeks of recruiting under this new law, 741 new physicians were employed by the Veterans Administration. Fifty-seven of these new appointees were Diplomates of one of the American Specialty Boards, and the proportion of Diplomates applying for appointment is increasing constantly.

The bill also provides for the establishment of residencies in Veterans Administration hospitals. These residencies are being set up in veterans hospitals now located near large medical centers. We now have approximately 150 residents in training, and this number will increase rapidly to 750 within a few months.

The cooperation of the medical schools throughout the country has been solicited in providing teaching facilities and instruction in the basic sciences prescribed by the various specialty boards. Sixty-three of the Grade A medical colleges have expressed their desire to cooperate, and thirty-five of the schools are now actively engaged in placing the plan in effect.

A third major problem with which we are faced has been the inability to clear up a backlog of pending examinations required for pension purposes. Claims for pension from World War II veterans are being received at the rate of over 400,000 per month. While the majority of these claims can be adjudicated on the basis of Army and Navy service records, a high percentage must receive a physical examination in order to determine the diagnosis and the degree of disability before the claim can

be adjudicated. There is a backlog of 180,000 cases now awaiting examination for pension purposes.

We have approached the problem of clearing up this backlog in two ways. First, special examination clinics have been established in a number of civilian hospitals located in fairly large population centers to conduct outpatient examinations for pension purposes. These clinics are staffed by one or more teams of five consultants, each under the supervision of an experienced Veterans Administration doctor. Each team is composed of two neuropsychiatrists, an internist, an orthopedist and an otolaryngologist. The physicians, who are either Diplomates or recognized specialists in their respective fields, are appointed upon the recommendation of the hospital concerned and are usually members of the hospital staff. They are employed on a consultant basis at the rate of $25.00 per clinic visit. It is anticipated that the clinics will be open three hours or more each day they are in operation, and that approximately twenty-five veteran claimants will be examined and cleared by each examining team during this period. Roentgen ray and laboratory examinations requested by the examining teams will be obtained at the hospitals at rates in accordance with the schedule of fees agreed upon.

This procedure was first instituted in New York City and additional clinics are being established in population centers such as Albany, Buffalo, Syracuse and Rochester.

Deputy administrators of all branch offices have been advised of this plan and have been authorized to place it in effect if they consider that it is practicable in their area.

Incidentally, it may be stated that as a means of expediting and simplifying the administrative work of the Veterans Administration, General Bradley has divided the country into thirteen areas somewhat similar to the nine corps areas of the Army. Each area is under the jurisdiction of a deputy branch administrator who is responsible for carrying out the policies promulgated by the central office in Washington.

The St. Louis branch office, designated as Branch Office No. 9, is under the jurisdiction of Mr. B. C. Moore. This office has administrative control over the states of Missouri, Kansas, Oklahoma and Arkansas.

In addition to the special examination clinics as outlined, General Hawley has solicited the medical profession throughout the country to aid in conducting examinations of veterans applying for pension and in rendering outpatient treatment to eligible veterans through civilian physicians in their local communities. The medical profession has responded splendidly to the General's appeal.

The Veterans Administration has for a number of years utilized the services of civilian physicians on a fee basis in conducting examinations for pension purposes and in rendering outpatient treatment for service connected disabilities. A national schedule of fees was utilized in paying for these services. Shortly after assuming charge of the Department of Medicine and Surgery, General Hawley decided that it would be more practicable and more satisfactory to the medical profession to discard the national schedule of fees and to pay fees agreed upon with various medical societies, which were considered fair and equitable in the communities or states concerned. In accordance with this policy, agreements have already been reached with a number of state medical societies as to the fees to be paid and the procedure to be followed in rendering medical services to veterans in their respective states. These includes Kansas, Michigan, California, New Jersey, District of Columbia, Oregon and Washington.

Negotiations are also being developed with a number of other states, including Massachusetts, Connecticut, New York, West Virginia, North Carolina, Ohio, Minnesota, Illinois, Wisconsin, Missouri, Colorado and Florida.

So far, two types of plans have been evolved. The plans of Kansas and Michigan are typical of these two types. For further information concerning the details of these two plans, your attention is invited to an article appearing in the February 16 issue of *The Journal of the American Medical Association* under the heading of "Medical Service for Veterans." The essential difference in these two plans is that the Veterans Administration will pay members of the Kansas State Medical Society direct for services rendered, whereas under the Michigan plan the physicians are paid by the Michigan Medical Service, an organization sponsored by the Michigan State Medical Society. This organization will, in turn, bill the Veterans Administration at rates in accordance with the schedule of fees agreed upon.

It is hoped that the Missouri State Medical Association will soon work out a plan for the care of veterans in the State of Missouri, either along lines similar to the plans of Kansas or Michigan or any modifications thereof, which is considered most adaptable or practicable in Missouri. Regardless of the type of plan which may be adopted, it is probable that certain problems and difficulties of administration will arise.

However, I feel certain that with your cooperation these difficulties can be overcome. This cooperation, which has already been manifested by the various state medical societies, is essential if we are to attain the goal in which we are all interested, namely, to provide for veterans the best medical treatment and the most up-to-date medical service that it is possible to obtain.

Again, let me express General Hawley's sincere regrets for his inability to be here with you this afternoon and my own appreciation for the privilege of talking to you in his stead.

Veterans Administration.

DERMATITIS RESULTING FROM EXPOSURE TO DDT

A PRELIMINARY REPORT

GAROLD V. STRYKER, M.D.,
AND
BERNARD GODFROY, M.D.
ST. LOUIS

Previous reports[1] in the literature concerning the incidence of dermatitis resulting from exposure to DDT (2,2 bis (p-Chlorophenyl) 1,1,1 Trichloroethane) have failed to incriminate this substance as the causative agent. All cases reported have been the result of sensitization to the solvent used as a base for commercial supplies.[2]

The following cases are significant due to the fact that in only one case was DDT in solution and in two cases the patients were exposed to the finished product or to the chemicals employed in its manufacture. In case 5 the patient was exposed solely to the finished product.

REPORT OF CASES

Case 1. G. S., male, aged 31, a chemical operator, was seen by us for the first time on May 28, 1945. At his job, for approximately five months, he had been in contact with the chemicals used in making DDT (2,2 bis (p-Chlorophenyl) 1,1,1 Trichloroethane), as well as the primary amines, analine or chloranaline which are employed in the manufacture of the sulfa compounds and the preparation of DDT.

The onset of the eruption was about May 1, 1945, on the feet, legs and to some extent on the left arm. The involved areas itched and slightly burned. There was no history of the ingestion of drugs. The patient's general health was good. The past history was negative for skin diseases.

Dermatologic examination of the patient revealed a dermatitis consisting of bilaterally grouped, pinpoint, mascular lesions, many of which were purpuric. Purpura was present to the greatest extent on the lower portion of the legs and the dorsal surface of the feet and toes. The eruption occurred in equal distribution on the anterior and dorsal surfaces of the body. It was present around the waist, over the hips and especially on the parts where the body folds upon itself as in the anterior axillary folds, abdomen and at points of pressure such as the belt line and other clothes pressure points. It also seemed to be made worse at points which are pinched.

The tourniquet test to determine capillary fragility failed to reveal any true purpura below the tourniquet. However, at the site of the tourniquet, purpura developed immediately. No lymph glands were palpable.

Laboratory examination of the blood revealed the following values white blood cell count 9,100, red blood cell count 5,675,000, hemoglobin content 17 Gm., differential count: stabs 10 per cent, segmented forms 56 per cent, lymphocytes 28 per cent, monocytes 6 per cent; prothrombin time 100 per cent of normal, clotting time 15 minutes (3 tube method), bleeding time 2 minutes, blood platelets 246,000 cu. mm., icterus index 4. The blood failed to show evidence of sulfa compounds.

The patient was treated with intravenous injections of 500 mg. of ascorbic acid from June 11, 1945, to November 13, 1945, at which time the dermatitis was clear entirely. There were no scars remaining and only a slight, pinpoint pigmentation was present about the ankles. During the course of treatment, it was noted that the lesions had a tendency to disappear first on the upper extremities and last about the ankles. At the time treatment was instituted, the patient was removed from his former occupation.

Case 2. L. B., male, aged 34, a maintenance mechanic, employed at the same chemical company as the patient, case 1, was examined by us on September 18, 1945. This patient came in contact with various chemical compounds and, intermittently, he was in contact with DDT in the finished product and the chemicals employed in its manufacture. The onset of the eruption was about July 1945, and it was present on the ankles, legs and to a milder degree on the forearms.

Examination of the skin revealed a dermatitis distributed over the legs, arms and the lower part of the trunk. The upper extremities were slightly involved, and there were no lesions present on the face. The primary lesion was a fine, purpuric, macular papule. In some areas, particularly below the knees, many lesions had coalesced to form diffuse, scaly patches.

Laboratory examination of the blood revealed the following values: white blood cell count 12,000, red blood cell count 5,320,000, hemoglobin content 16 Gm., differential count: stabs 5 per cent, segmented forms 73 per cent, lymphocytes 17 per cent, and monocytes 5 per cent; clotting time 19 minutes, bleeding time 4 minutes, blood platelets 287,000 cu. mm., and icterus index 9. The examination of the blood for sulfa compounds was negative. The Kahn reaction of the blood was negative. The tourniquet test to determine capillary fragility was negative.

Treatment consisting of 500 mg. of ascorbic acid, intravenously, was instituted and the patient was discharged as clinically cured on January 3, 1946. This patient also was removed from all contacts with chemicals manufactured at the plant.

Case 3. C. B., male, aged 37, a pipe fitter, employed at the chemical company, consulted us on October 6, 1945. He had been in contact, at various intervals, with chemicals manufactured by the plant including DDT in its various stages of production. He complained of an eruption which was present on the legs and trunk, and it had been present since the latter part of September 1945. The chief complaint was itching. The general health

From the Department of Dermatology, St. Louis University School of Medicine.

was good and the past history was negative for skin diseases.

Dermatologic examination revealed a dermatitis consisting of pinpoint to pinhead sized, erythematous areas which remained discrete and roughly in clusters. Some of the small lesions were purpuric. The eruption was present on the ankles, spreading up the legs to the hipline. There also were a few scattered lesions on the anterior axillary folds and in the pectoral region below the clavicle. The lesions were present at points of pressure and folds in the skin.

Laboratory examination of the blood revealed the following values: white blood cell count 11,000, red blood cell count 5,040,000, hemoglobin content 15.5 Gm., differential count: eosinophils 1 per cent, basophils 4 per cent, stabs 9 per cent, segmented forms 68 per cent, lymphocytes 17 per cent and monocytes 1 per cent; clotting time 21 minutes, bleeding time 4 minutes, blood platelets 241,920 cu. mm., and icterus index 5. Examination of the blood for sulfa compounds was negative.

The patient was given 0.6 Gm. of sodium thiosulfate, intravenously, and treatment was continued until November 26, 1945, at which time he was discharged as clinically cured.

CASE 4. H. D., male, aged 31, a chemical operator at the same plant as the other patients, came to us for examination on September 25, 1945. This man was employed for approximately one year exclusively in the manufacture of DDT and handled the ingredients up to the point of crystallization. The onset of the eruption was about the first part of September 1945 on the legs and feet only.

Examination of the skin showed a dermatitis limited to the legs below the knees, distributed equally on all surfaces. It was worse in the region of the ankles. The primary lesion was a pinpoint erythema with surrounding ectasia of the vessels. There was a tendency to grouping and widening of the erythema to form a mottled, superficial, mildly pale, reddish dermatitis. Over most of the legs, there were scattered pin point, purpuric lesions.

Laboratory examination of the blood revealed the following values: white blood cell count 7,700, red blood cell count 6,100,000, hemoglobin content 18.5 Gm., differential count: stabs 1 per cent, segmented forms 44 per cent, lymphocytes 50 per cent, and monocytes 5 per cent; clotting time 20 minutes, bleeding time 1½ minutes, blood platelets 186,000 cu. mm., and icterus index 5. Examination of the blood for sulfa compounds was negative.

The patient was placed under treatment, receiving 500 mg. of ascorbic acid intravenously, and this was later followed by 0.6 Gm. of sodium thiosulfate intravenously. This therapy was continued until October 26, 1945, at which time the patient was discharged as clinically cured.

CASE 5. M. M., a woman, aged 23, employed at the same chemical plant, reported for examination on November 15, 1945. In her occupation, she made samples of DDT powder for approximately four and one-half months. In turning trays of the DDT powder, she had to open a hot oven door and, in so doing, the powder would blow back onto the patient. She was not in contact with analine, chloranaline or primary amines, or any other chemicals. The onset of the skin condition was on the hands and wrists in the latter part of August 1945. It gradually spread, while she continued working, to involve the entire body. The chief complaint was itching. The general health was good. There was no history of the ingestion of drugs.

Examination of this patient disclosed a dermatitis particularly marked over the trunk, in the region of the thorax and axillae, and in some areas where there had been pinching and scratching of the skin. The face was free and the legs were involved slightly. The lesions consisted of a fine pinpoint papule many of which were purpuric. This purpura was arranged in linear distribution particularly in the areas of the posterior and antierior axillary folds.

Laboratory examination of the blood revealed the following values: white blood cell count 11,200, red blood cell count 4,850,000, hemoglobin content 11.5 Gm., differential count: stabs 4 per cent, segmented forms 64 per cent, lymphocytes 29 per cent, monocytes 3 per cent; clotting time 18 minutes, bleeding time 2 minutes, blood platelets 254,000 cu. mm., and icterus index 3.

The patient was removed from her occupation and placed on treatment receiving intravenous injections of 500 mg. of ascorbic acid until January 24, 1946, at which time the eruption was entirely clear.

CASE 6. C. P., male, aged 41, a dentist, was seen for the first time by us on December 18, 1945, because of a purpura of both legs from the knees to the toes which had been present since the latter part of October 1945. He said that he had sprayed his houses about two month previously with a 6 per cent solution of DDT in xylol. His clothes also were sprayed. This was followed with the use of an aerosol bomb containing DDT. He had had contact with a 10 per cent solution of DDT in xylol in the summer of 1945. He had not been in contact with chemicals nor taken drugs by mouth at any time since and for some time prior to the onset of the skin condition.

Dermatologic examination showed primary lesions consisting of erythematous, pinpoint to pinhead sized macules, most of which contained purpura. They were arranged in groups becoming confluent to form patches, some of which were slightly scaly. An occasional one developed a circinate pattern with a tendency to clear in the center. There was a marked tendency for purpuric lesions to occur in linear distribution in the areas of the skin which were thrown into the folds such as the anterior and posterior axillary folds and transverse folds of the abdomen. The patches on the inner surface of the arms and forearms and extensor surface of the forearms were scaly and slightly thickened. The lesions extended from the

ankles to the belt line and stopped very sharply at the level of the belt line, only to reappear in the form of smaller, pale papules which became more exaggerated as they approached upward on the trunk particularly in the exillary area. There were no lesions present above the clavicle or on the face. The palms and soles were free of dermatitis. The lesions extended down onto the dorsal surface of the toes, and all areas showed purpura with Cheyenne pepper-like spots in the macules in the region of the ankles.

Laboratory examination of the blood revealed the following values: white blood cell count 8,150, red blood cell count 5,580,000, hemoglobin content 16.5 Gm., differential count: eosinophils 7 per cent, stabs 2 per cent, segmented forms 62 per cent, lymphocytes 21 per cent, monocytes 8 per cent; blood platelets 368,000 cu. mm., prothrombin 100 per cent of normal; total proteins 8.1 per cent, albumin 5.7 per cent and globulin 2.4 per cent. The Kahn reaction of the blood was negative.

A biopsy was performed on this patient and the pathologic report is as follows: The epidermis is normal in thickness. There are no alterations in the structure above the prickle cell layer. There is intracellular edema over the entire section. In one small area, an intraepidermal vesicle has appeared. There is edema of the papillary layer and mild edema of the cutis. The blood vessels are dilated and surrounded by a sleeve-like infiltrate of lymphocytes. There is evidence of red blood cell extravasation in the papillary layer. The elastic tissue and collagen bundles appear normal.

The patient was placed on 500 mg. of ascorbic acid intravenously and on February 23, 1946, he was nearly well. He was advised to continue with the ascorbic acid orally.

SUMMARY

Six cases are presented showing identical, clinical lesions, running a similar course, all of whom had exposure to DDT. Case 5 had no other known exposure except powdered DDT. Case 4 worked exclusively in the manufacture of DDT up to the point of crystallization. Case 6 was the only one not employed in the manufacture and who had had two extensive exposures with DDT in solution (xylene) and (aerosol).

CONCLUSIONS

The clinical course and distribution together with the pathology indicate that the offending agent is absorbed through the skin or inhaled and distributed to the skin through the blood stream; also the eruption appears as a dermatitis medicamentosa rather than a dermatitis venenata.

The first lesion, in all cases, occurred about the ankles with a slow extension up the legs and onto the trunk and upper extremities with an accentuation of all elements of the disease at points of pressure, especially about the belt line and in the skin folds. The face escaped involvement in all instances.

The onset in all cases occurred following exposure in the summer when the patients were perspiring and their skins were covered with an oily layer of sebum. This time relationship suggests that absorption through the skin may have been the chief source of entry into the body.

All cases tended to run a protracted course and responded when intravenous therapy with a detoxifying agent was given.

Although patch tests were not performed, three of the patients returned to their former occupation, in the same environment, when the weather turned cool, without a recurrence. Thus a practical test, more conclusive than the artificial patch test, was negative in three cases. Positive patch tests were not anticipated as the clinical and biopsy findings indicated a toxic dermatitis rather than an epidermal sensitization.

The occurrence of these six cases appears to be more than a coincidence. It is suggested that other instances may occur, particularly following exposure to DDT in the summer or in a warm environment. The disease may be overlooked as it produces almost no subjective symptoms.

A seventh case, giving a history of exposure to DDT at his occupation and at home, and presenting identical clinical symptoms as described in the six previous cases, is under observation at the present time.

634 N. Grand Ave. (3)

BIBLIOGRAPHY

1. Personal communication from Paul A. Neal, Medical Director, Chief, Industrial Hygiene Research Laboratory, U. S. Public Health Service, Bethesda 14, Maryland.
2. DDT Poisoning: Queries and Minor Notes, J. A. M. A. 130:56 (Jan. 5) 1946.

ENDOCRINE PROBLEMS IN GYNECOLOGY

ROBERT J. CROSSEN, M.D.

ST. LOUIS

The pelvic conditions in which the endocrine glands frequently play an important role are, anovulatory bleeding, ammenorrhea, dysmenorrhea, menopause, sterility and vaginal affections in the old and young. To try to cover all of these in twenty minutes would result only in confusion, hence, I shall limit this discussion to the two most frequently met in general practice; namely, anovulatory bleeding, menopause bleeding and the menopause.

Knowledge as to the cause of normal menstrual bleeding is still not complete. It is now generally understood that through some, as yet, unknown impulse, the anterior lobe of the pituitary gland begins to liberate its gonadotrophic hormone into the blood at or shortly after the onset of puberty. In children of both sexes between the ages of 3 and 8, estrogens are excreted in small amounts. In girls between the ages of 8 to 11, the amount of estrogen excreted is increased, and, a year or two prior to the onset of puberty the intensity of secretion

Presented before the Kansas City Southwest Clinical Society, October 2, 1945.

becomes cyclic. When the amount of estrogen in the blood is of sufficient magnitude, the reduction phase causes a breaking down of the endometrium and withdrawal bleeding occurs. This is called anovulatory bleeding because the pituitary influence is not yet sufficient to induce maturation and release of the ovum. This type of bleeding may occur at any age but it is most frequently seen at the two ends of menstrual life; namely, puberty and the menopause, since it is at these times that the ovulatory cycles are just beginning, or, are in the process of stopping. Unless there is an abnormal loss of blood or the bleeding results in a delayed menopause, no treatment is needed.

The blood levels in the hormonal control of menstruation vary. At the start of the period the levels of estrogen and the pituitary gonadotropin are both low. The pituitary A increases rapidly in the blood stimulating the granulosa cells of the follicle to secrete estrone. The estrone level rises steadily and with ovulation there is a slight drop in the blood estrogen level. As this level increases with the development of the corpus luteum, it causes an inhibition to the production of pituitary A and B. By the twenty-sixth or twenty-seventh day of the cycle, the level of the pituitary hormones is reduced to such an extent due to estrone inhibition that they can no longer stimulate the corpus luteum, hence, it dies causing withdrawal from the blood of estrone and progesterone. This withdrawal of the ovarian hormones causes a shrinking of the endometrium and also initiates the vascular changes resulting in bleeding and the disintegration of the endometrium.

It now is recognized that the actual onset of the menstrual bleeding is due to changes in the spiral arterioles. The spiral arterioles arise from the arcuate branch of the uterine artery and run perpendicular to the endometrium between the endometrial glands. They are end arterioles and give off no brances after entering the endometrium. At their basal end they are surrounded by a cone of muscle fibers. These fibers have the power of constricting the spiral arterioles and they are under hormonal control, being affected by estrogens, progesterone and testosterone. Through the work of Markee in the monkey, later confirmed by hysteroscopic study in women, the following changes were found to occur: During the first three weeks of the menstrual cycle there is an alternate contraction and relaxation of these arterioles, causing alternate blanching and blushing of the endometrium. During the premenstrual stage the blood flow through the arterioles is slowed and endometrium becomes paler. With the withdrawal of estrone and progesterone, twenty-four to thirty-six hours before menstruation, there is a loss of fluid in the endometrium causing it to shrink. This causes increased coiling of the arterioles and slows the blood flow in them markedly. Through the action of some unknown toxic vasomotor substance caused by the stagnation of blood flow the cones clamp down, stopping the blood flow completely, and within from four to twenty-four hours subepithelial hematomas appear and these gradually coalesce and rupture through into the uterine cavity. The endometrium is then cast off down to its basal layer. New glands and arterioles develop with the new endometrium.

In order to understand the rational of estrogen, progesterone and testosterone therapy in uterine bleeding certain other effects of these hormones must be understood. Experimental work in monkeys has shown that when a monkey is castrated withdrawal bleeding occurs in approximately nine days. If then 400 units of estrogen is given daily for fourteen days and then stopped, bleeding again occurs in from nine to sixteen days. If on the fourteenth day the dose is dropped to less than 250 units daily, bleeding occurs in from nine to fourteen days, in spite of continued estrogen administration. If the dose is kept above 250 units after the fourteenth day bleeding is inhibited. From these experiments it is evident that there is an estrogen threshold in castrated monkeys above which bleeding will be prevented and below which bleeding will occur. If progesterone is given, and then withdrawn, bleeding occurs within from two to four days, a much shorter latent period than that of estrogen. Estrogen withdrawal bleeding can be inhibited by progesterone indefinitely, whereas, after withdrawal of progesterone, bleeding will invariably occur even though large doses of estrogen are given, in an attempt to prevent bleeding. Testosterone has qualities similar to both of the ovarian hormones. In an endometrium previously primed by estrogen, the testosterone exerts a proliferative effect, while on a secretory endometrium, testosterone maintains this secretory phase. The latent bleeding period for testosterone withdrawal is from fifteen to twenty-five days.

So much for the known facts concerning uterine bleeding, normal and abnormal. Now, how do these apply in the treatment of the patient with uterine bleeding due to endocrine dysfunction?

The bleeding may be caused by abnormal activity of any of the endocrine glands concerned with pelvic function: pituitary, thyroid, ovaries and, probably, the adrenal. If diseases of the pituitary and adrenal cortex are ruled out, and the thyroid function is normal, then by elimination one can assume that the disorder is one of imbalance of the ovarian hormones. As mentioned earlier, the primary cause may be due either to an excess of estrogen, or, a deficiency of the corpus luteum.

First, I will discuss the use of estrogenic substances in treatment. In view of the observation that excessive estrogen can cause endometrial hyperplasia and bleeding, it is not clear why the administration of estrogens stop bleeding. The effect of large doses is too prompt to allow for inhibition of the pituitary and, hence, it is thought to be due to a direct action on the coiled arterioles. Hamblem has long been an advocate of estrogenic therapy. He uses either stilbestrol or, if the patient cannot

take this, estrone sulphate. This latter is derived from the urine of pregnant animals and goes under the trade name of Premarin. The first step in the treatment is to stop the bleeding and this is accomplished by giving diethylstilbestrol, 6 mg., or estrone sulphate, 7.5 mg., daily. The bleeding usually will stop within five days, but, if it does not the dose is increased from 25 to 100 per cent. The required daily dose is then continued for twenty days, or until the bleeding occurs, and, then the therapy is discontinued for five days. The dose is then reduced 50 per cent and the cyclic therapy (fifth to the twentieth day) is continued for three periods, when, a premenstrual biopsy is done to determine whether a progestational endometrium has been found. The cyclic therapy as outlined sometimes helps to promote normal pituitary action. If there are no progestational endometrial changes it is evident that the ovulation has not occurred, so attempts are then made to cause ovulation by administration of P.M.S. and choronic gonadotropin. The former is given 20 units from the fifth to the twelfth day and the latter 500 units from the twelfth to the twentieth day. If, after several trials, a premenstrual endometrium is not obtained the ovaries are judged refractory.

The second sex sterol used in anovulatory bleeding is progesterone. Fifteen years ago Novak in discussing anovulatory bleeding stated that the hyperplasia of the endometrium and the bleeding were due to the lack of the corpus luteum hormone and he advised the use of the oily extract of the corpus luteum then on the market. In 1930, I had a difficult case of the type of bleeding in a young girl in whom this type of therapy was the only one to which she responded. Recently Willard Allen and others have reported satisfactory results in 50 per cent of cases using progesterone. To stop the bleeding 10 mg. is given intramuscularly daily for six days and then stopped. A period usually followed cessation of the therapy within forty-eight hours, and lasted from five to six days. This was probably caused by progestin-deprivation and resulted in breakdown and a casting off of the endometrium as occurs with true menstruation, so, this in itself is beneficial, especially in cases having a hyperplastic endometrium. In one third of the cases treated by Allen normal menses ensued and these continued for many months and, in the second third abnormal bleeding recurred within four months, and in the remaining third a long period of amenorrhea occurred. When anhydrohydroxy progesterone was given by mouth, total doses of from 180 to 600 mg. were required to control the bleeding. In 1943 the Ciba company supplied me with a new product of progesterone which can be given sublingually thereby avoiding partial destruction of the product by the gastric secretions.

I used this preparation in eight cases of persistant anovulatory bleeding. Six were relieved markedly but needed repetition of therapy occasionally; in one, the relief was temporary, and one was a complete failure. Five mg. were given twice daily for from a week to ten days before the period.

Recently Allen has been using this preparation giving 20 mg. daily for six days with good results.

From a physiologic standpoint the logical treatment for anovulatory bleeding would be administration of the pituitary hormones in order to cause ovulation and corpus luteum formation. Although Davis and Koff have accomplished this is normally ovulating women with pregnant mare serum it has not been successful in women having anovulatory cycles. The urinary gonadotropin according to the work of Hamblen and Geist does not cause ovulation in the human but does destroy persistant follicles, and, it is probably through this latter action that the excess estrogen is diminished and in this way the bleeding is controlled. With this type of therapy from 200 to 500 units are given daily until the bleeding is controlled and if it is not controlled after eight doses some other type of treatment is indicated.

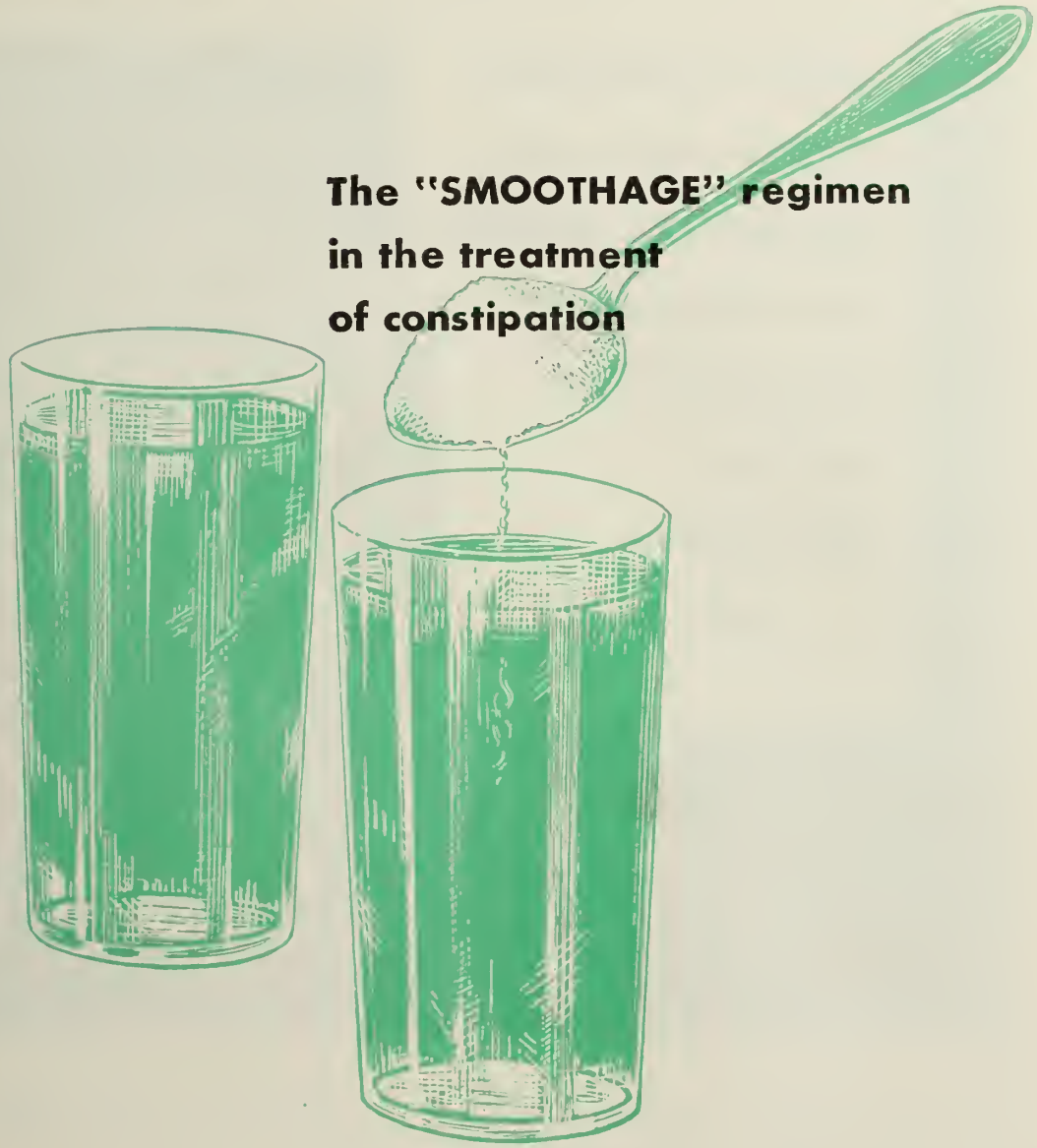
Abarbanel obtained good results using the male hormone testosterone. A dose of 25 mg. intramuscularly was given as the initial dose, then the same dose was given subcutaneously until the bleeding stopped. With succeeding periods from 5 to 10 mg. were given three times a week. Its action is both indirect, through inhibition of the pituitary, and direct on the coiled arterioles. If masculinization effects are noted treatment should be discontinued.

In some cases curettage is indicated as an emergency measure. In women at or near the menopause curettage to rule out malignancy and radiation therapy to stop the bleeding is the treatment of choice as this also stops the abnormal estrogenic stimulation of the endometrium which it is felt is probably an important factor in the development of endometrial carcinoma.

The second condition associated with pelvic endocrine function is disturbed menopause. Before discussing therapy I should like to mention the need of preparing women for this period in their life. It is the duty of the doctor to explain that this is a normal process and in most cases requires no treatment. In many cases, as Novak states, the menopause comes as a boon, for the fear of childbearing with its mental and physical upsets is eliminated. Many women who have been thin all their lives gain weight and enjoy better health at this time. If women understand the changes that are occurring it enables them to make the mental and physical adjustments needed. In recent years all physicians have had women come to them asking if it was necessary to take shots (even though they are asymptomatic) to avoid the terrible changes of the menopause. It is the doctors duty to discourage this habit, for not only it may not be indicated but the estrogenic stimulation may cause harm.

When symptoms do occur those most frequent are flushes, headaches, nervous irritability and, occasionally, obesity, joint pains, and pains in the breasts. The menses are frequently disturbed.

The "SMOOTHAGE" regimen in the treatment of constipation



A rounded teaspoonful of Metamucil stirred into a glass of water, milk or fruit juice, three times a day, provides the soft, mucilaginous bulk which is desirable for natural elimination. Metamucil contains no roughage, no oils, no chemical irritants.

Metamucil is the highly purified, nonirritating extract of the seed of the psyllium, Plantago ovata (50%), combined with anhydrous dextrose (50%). It mixes readily with liquids, is palatable, easy to take.

Supplied in 1-lb., 8-oz. and 4-oz. containers.

Metamucil is the registered trademark of G.D Searle & Co.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

Hot weather presents no problem when Lactogen is used for infant feeding . . . because



. . . when refrigeration is not available, each feeding may be prepared separately. The doctor can always advise the mother to prepare individual LACTOGEN feedings whenever the baby is ready for his bottle. Preparing each LACTOGEN feeding just before feeding time safeguards the baby against the danger of nutritional upsets caused by bacteriological changes in the formula.

EASY TO PRESCRIBE

LACTOGEN	+ WATER	= FORMULA
1 LEVEL TABLESPOON	2 OUNCES	2 FLUID OUNCES
40 CALORIES (APPROX.)		20 CALORIES PER OZ. (APPROX.)

No advertising or feeding directions except to physicians. For feeding directions and prescription pads, send your professional blank to

Nestlé's Milk Products, Inc.

155 EAST 44TH ST., NEW YORK, 17, N. Y.

Many secondary symptoms, coincident with the menopause, are not due to the endocrine changes at this time but to the physical and mental make up of the patient.

In regard to therapy Engle found that many of the symptoms noted at menopause were due to slight hypothyroidism, and he obtained the best results in these patients by administration of thyroid plus a mild sedative such as phenobarbital. Should the patient not respond to this therapy, especially if the hot flushes continue, estrogenic medication should be added, either in the form of stilbesterol or true estrogens. Small doses of from 0.25 to 0.50 mg. of stilbesterol at bed time are usually adequate; if stilbesterol is not tolerated well premarin tablets, one or two daily, are used.

In conclusion, the symptom of bleeding in the menopause is one requiring special mention. The average age of menopause is 47 years; about one-fourth of women stop before that age and another fourth stop after 47. Some years ago in a study of cases of adenocarcinoma of the endometrium we found that the percentage of cases in this group that menstruated past 50 years was five times greater than it was in a series of supposedly normal women who menstruated past this age. From this study and other evidence in the literature, I feel that this continued estrogenic stimulation of the endometrium at an age in life when the endometrium is usually becoming atrophic is an important factor in the development of endometrial carcinoma. Any abnormality of the menses in women at this age requires curettage to rule out carcinoma and radium treatment to stop ovarian activity.

607 N. Grand Ave.

CASE REPORT OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCE AT BARNES HOSPITAL, ST. LOUIS

W. BARRY WOOD, JR., M.D., and ROBERT A. MOORE, M.D., Editors

CASE 89

PRESENTATION OF CASE

A. C. M., a 39 year old, white electrician, entered the Barnes Hospital for the first time on April 7 and was discharged on April 19, 1943.

Chief Complaints.—Muscular weakness and loss of weight.

Family History.—Irrelevant.

Past History.—The patient had had scarlet fever at the age of 16, a kidney stone at 28 and mumps at 35. There had been no complications. He was a printer and then an electrician whose living conditions were satisfactory and whose habits were moderate. Other than the fact that he had always had an enormous appetite, there was nothing significant in the systemic history.

Present Illness.—Two years before admission, the patient developed a cough that had an insidious onset and was productive only of a small amount of white phlegm. This lasted about three months. Soon after the onset of cough, excessive sweating began. This symptom persisted, occurring throughout the day and night and necessitating frequent changes of the bed clothes. About this time his friends often told him that his left eyelid was drooping. A few months later the patient began to have sudden, severe pain in the back which often awakened him at night. Localization was not described. Physiotherapy and medication brought only partial relief. There had been gradually increasing weakness, particularly of the legs. Whereas the patient previously had been able to play about twenty games of ping-pong each night, this exercise had to be curtailed gradually and then omitted. Weakness in the legs progressed to the point where he was compelled to pull himself upstairs with his arms. However, the patient continued to work. Three months prior to admission, during an examination by one of the many physicians he consulted, sugar was found in the urine and he was placed on a restricted diet and given 10 units of insulin a day. About this time he noted some puffiness of his face and moderate swelling of the ankles. He had lost 39 pounds during the last year of his illness.

Physical Examination.—Temperature was 37 C., pulse 75, respirations 20 and blood pressure 160/90. The patient was described as lying comfortably in bed. The skin was dry with superficial excoriations. In the right axilla was one lymph node about the size of an almond. Along the lateral border of the left pectoral muscles two or three similar glands were palpable. There was drooping of the left eyelid which, when called to the patient's attention, was corrected voluntarily. No other weakness of the eyes or lids could be detected. The visual fields were grossly normal. The fundi showed slight nicking of the veins and central cupping of the right disk. The ears were described as normal. The tongue protruded in the midline. There was a good deal of subcutaneous fat about the neck, more prominent on the left, which made the neck asymmetrical. There was definite atrophy of the right shoulder muscles and drooping of the shoulder but no loss of strength was noted. On percussion there was marked widening of the mediastinum which measured 9 inches across. This widening extended equally to the right and left. Over this area breath sounds and tactile fremitus were diminished. No other abnormalities of the lungs were detected. The left border of the heart extended about 11 cm. from the midsternal line, with the apex in the sixth interspace. The rhythm was regular. Sounds at the base were distant; those at the apex were well heard. There was a short systolic murmur at the apex, not transmitted. The abdomen was protuberant. No organs or masses were felt. The prostate was normal in size but there was much tenderness over the posterior sur-

FIT

THE unique CAMP system of controlled adjustment incorporated in many specialized models graded to the various types of body build gives Camp Anatomical Supports the endless number of fitting combinations called for by the endless variations in the human figure. Full benefit of this precision design is assured for the individual patient's well-being and comfort because Camp Scientific Supports are precision fitted by experts ethically trained at Camp instructional courses in prescription accuracy.



Camp Anatomical Supports ethically distributed under the inspiration of this hallmark have met the exacting test of the profession for four decades. Prescribed and recommended in many types for prenatal, postnatal, postoperative, pendulous abdomen, visceroptosis, nephroptosis, hernia, orthopedic and other conditions.

CAMP
TRADE MARK

ANATOMICAL SUPPORTS

S. H. CAMP & COMPANY
Jackson, Michigan

World's Largest Manufacturers of Scientific Supports

Offices in NEW YORK • CHICAGO
WINDSOR, ONT. • LONDON, ENG.

If you do not have a copy of our "Reference Book for Physicians and Surgeons", copy will be sent upon request.

face. All extremities showed poor muscle development. There appeared to have been a general loss of strength, especially in flexion of the thighs on the hips. There was slight pitting edema over both lower extremities. Reflexes were hypoactive throughout.

Laboratory Findings.—Blood count: red cells 3,610,000, hemoglobin 11.1 grams, white cells 7,290; differential count: eosinophils 1 per cent, "stab" forms 6 per cent, segmented forms 79 per cent, lymphocytes 9 per cent. Sternal marrow: The marrow was normally cellular with perhaps slight stimulation of normoblastic elements. Urinalysis showed sugar one plus. Stool examination: guaiac, weakly positive. Kahn reaction was negative. Glucose tolerance test: fasting sugar 155 mgs. per cent, urine sugar 4 plus; one hour specimen 300 mgs. per cent, urine sugar 4 plus; two hour, 336 mgs. per cent; four hour, 211 mgs. per cent, urine sugar 4 plus. Blood chemistry: fasting sugar 105 mgs. per cent, nonprotein nitrogen 16 mgs. per cent, sodium chloride 590 mgs. per cent, serum calcium 10.3 mgs. per cent, serum phosphorus 3 mgs. per cent, serum phosphatase 2 Bodansky units, acid phosphatase 3.7 units per cent. Roentgenograms: "There are thirteen areas of increased density in the skull, circular in shape, the largest about 2 cm. in diameter, in which a dark area of evident bone destruction appears. The right shoulder girdle shows a destructive osteoplastic process in the glenoid of the scapula. There is an enormous tumor filling the anterior mediastinum and obliterating largely the cardiac outline. The fifth lumbar vertebra and possibly the first sacral vertebra show marked increase in density and suggestive destructive process in the anterior third of the upper surface of the fifth lumbar vertebra. Pelvic and hip joints show rounded zones of increased density."

Course in Hospital.—Shortly after admission a biopsy was taken of a lesion in the ilium. The microscopic diagnosis was metastatic carcinoma. Roentgen ray therapy of the chest was begun. Because of the history of drooping of the eyelid and other muscle weakness, 1 cc. of 1:2,000 prostigmine solution was given, although the physical findings were not considered characteristic of myasthenia gravis. Before injection the patient was unable to sit up in bed. Fifteen minutes after the injection he felt much stronger, could sit up and wanted to get out of bed. This was considered a "myasthenic response." Protamine zinc insulin, 10 units per day, was given without improvement of the diabetes. After several treatments with roentgen ray he left the hospital unimproved.

Second Hospital Admission.—November 24 to November 26, 1943.

Interval History.—Following discharge the patient continued to take insulin and prostigmine. His strength and weight improved, his legs and arms filled out and in six weeks he was able to resume work. Then he discontinued the prostigmine with no untoward effect. His job required him to stand for long hours and the patient developed no undue fatigue. No strict diet was observed at any time. He developed tingling of the finger tips relieved by a cube of sugar, and thereafter insulin was discontinued. In two weeks previous to readmission, in spite of a good appetite, the patient lost ten pounds. Then pains in the head, neck and upper extremities appeared and recurred, necessitating hypodermic injections. Five days previous to admission, he had a sudden onset of sharp shooting pain on the right side of the head and face. The following morning his tongue felt thick and deviated to the right and speech was difficult. Some slight weakness of the left side of the face was noted. In a few days the patient felt well except for a thick tongue and returned to work. On the morning of admission he arose later than usual, appeared from his room partially dressed, did not speak and did not seem to understand what was said to him. He was brought immediately to the hospital.

Physical Examination.—Temperature was 36.8 C., pulse 64, respirations 18, blood pressure 125/110 and weight 143 pounds. The patient appeared healthy and in no distress. He was once again alert and oriented, but his speech was somewhat thick. There were excoriations on the skin. There were several areas in the skull about the size of a dime which appeared soft. The eyegrounds were grossly negative; the pupils reacted normally. Hearing was normal. The tongue deviated to the right on protrusion and there was a questionable impaired elevation of the uvula. Swallowing seemed to involve undue effort. The chest showed a somewhat increased antero-posterior diameter. No increase in mediastinal dullness was described. The lungs were clear. The heart was not enlarged; the rhythm was regular. The sounds were of good quality. The abdomen revealed no abnormality. The extremities showed no atrophy and strength was good. Neurologic examination was negative for the motor system except for the findings in the tongue and face. Sensory examination showed an area of hypoalgesia to pin prick on each side of the third and fourth lumbar vertebrae.

Laboratory Findings.—Blood count: red cells 3,990,000, hemoglobin 13 gms., white cells 6,700; differential count: "stab" forms 12 per cent, segmented forms 67 per cent, lymphocytes 21 per cent. Urinalysis was negative. Roentgenogram: "The mass in the mediastinum noted previously is no larger than at time of last examination. The bone lesions in the pelvis do not seem as pronounced as formerly and this seems to be true of the bone lesions in the skull. The mastoid films are negative."*

Course in Hospital.—The patient received roent-

*Note: Roentgenogram taken on March 24, 1944, revealed: "There is marked change in the lesion previously noted in the skull and in the ilium. The appearance of these bones approximates the normal. The lateral laminagrams of the dorsal spine show cavitation in the twelfth, eleventh, tenth, ninth and eighth dorsal vertebrae. In the postero-anterior view of the chest the condition is substantially the same as at last examination."

gen ray therapy to the mediastinum and was discharged forty-eight hours after admission. He died at home in August 1945.

CLINICAL DISCUSSION

Dr. Harry Alexander: This is indeed a remarkable and interesting disease. It seems permissible to consider the tumor in the mediastinum to be primary and the lesions in the bone secondary. We should, therefore, inquire as to what tumors of the anterior mediastinum most often metastasize to bones. Have you any suggestions, Dr. Bulger?

Dr. Harold Bulger: Tumors of the thyroid or of the thymus might do so.

Dr. Alexander: Yes, both of these tumors give metastases to the bones. There is no note in the physical examination that the thyroid gland was palpably or visibly enlarged. Which of these tumors is most likely to give this picture?

Dr. Bulger: Tumors of the thyroid.

Dr. Alexander: If the tumor arose from the thyroid it must have come from a substernal thyroid gland. There is no record of the basal metabolic rate having been determined. What is the usual change in this test with carcinoma of the thyroid?

Dr. Bulger: As a rule there is no change.

Dr. Alexander: Is there other evidence for a carcinoma of the thyroid gland except the location of the mass in the anterior superior mediastinum?

Dr. Bulger: The sharply outlined metastases in the bone are the type usually seen with carcinoma of the thyroid. I am not acquainted with the type seen with tumors of the thymus.

Dr. Alexander: Dr. Wood, what tumors may arise primarily in the thymus?

Dr. W. Barry Wood, Jr.: Lymphosarcoma is the usual type, but primary carcinoma has been reported.

Dr. Alexander: Is the lymphosarcoma of the same type as that which arises in lymph nodes?

Dr. Wood: The differentiation is very difficult but Dr. Ewing states that there are differences in the microscopic appearance of the cells.

Dr. Alexander: The report of the biopsy stated that the metastatic lesions were carcinoma. Is it possible, Dr. Moore, that this arose in the thymus?

Dr. Robert A. Moore: Yes, there are reports of primary carcinoma of the thymus.

Dr. Alexander: Are such tumors radiosensitive?

Dr. Donald Bottom: They are reported to be radiosensitive, but to a lesser degree than lymphosarcoma.

Dr. Alexander: Radiation was the only treatment this patient received, and the nodules, both in the skull and in the mediastinum, did decrease in size.

Dr. Bottom: We must remember that this patient did not receive any radiation of his head. This patient received radiation over his pelvis and might have been sterilized. It would be interesting to inquire whether or not this effect on the metastases could have been of a hormonal origin. I have seen metastases of carcinoma of the breast and prostate react in this manner.

Dr. Wood: Would you suggest that this tumor is a carcinoma of the prostate?

Dr. Bottom: No, I do not think we have enough evidence to support that diagnosis.

Dr. Alexander: What other radiosensitive tumors can arise in the mediastinum?

Dr. Bottom: An undifferentiated carcinoma arising in a teratoma is a possibility, but I have never seen such tumors give rise to osteoplastic metastases.

Dr. Carl V. Moore: We saw this patient a few days before his death and performed a sternal puncture. There were definitely abnormal cells in the bone marrow which were interpreted as carcinoma cells. They could possibly have been reticulum cell sarcoma cells but were definitely not of the usual type seen in lymphosarcoma. It would have been interesting to have given this patient an injection of radioactive iodine. By means of a Geiger counter we could have then determined whether the radioactive material was concentrated in the mediastinum and this would have established the diagnosis of a tumor derived from thyroid tissue.

Dr. Edward Reinhard: If positive, such a test would be quite significant. However, we must remember that some carcinomas of the thyroid lose their characteristic ability to metabolize iodine and, therefore, do not concentrate the element. Thus, a failure to detect radioactivity in the mediastinum following the administration of radioactive iodine would not rule out a thyroid carcinoma.

Dr. Alexander: Dr. Wood, are you willing that we proceed with the diagnosis of carcinoma of the thymus?

Dr. Wood: I would rather it be called a malignant thymoma without a definite commitment as to whether it was a carcinoma or a sarcoma.

Dr. Alexander: Dr. Levy, this patient had symptoms suggestive of myasthenia gravis, did he not?

Dr. Irwin Levy: Yes, and he seemed to have a complete remission of symptoms after the administration of a test dose of prostigmine. However, because of the atypical clinical syndrome I would rather say that he had a myasthenic reaction than myasthenia gravis.

Dr. Alexander: Just what is the relation of the thymus to myasthenia gravis?

Dr. Levy: That is not known definitely. At autopsy, about 50 per cent of the cases have a lesion of the thymus which may be either a tumor or simply hyperplasia. Some authorities reject this as evidence of a true etiologic relation and suggest that the changes in the thymus are merely those commonly seen in chronic disease. Nevertheless, removal of the thymus often leads to clinical improvement.

Dr. Alexander: There is, therefore, both clinical



8 hours' release

Even overwrought patients who "fight off" sleep are lulled gently but firmly with Ipral. The effect is not apt to wear off suddenly, as with the shorter-acting barbiturates. Ipral assures a full night's sleep, closely resembling the normal. Prescribe one or two tablets of Ipral Calcium (calcium ethylisopropyl barbiturate) *one hour before retiring.* Plain, unmarked, unidentifiable.

Ipral
TRADEMARK CALCIUM

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

and physiologic evidence for a relation of disease of the thymus to myasthenia gravis.

Dr. Levy: Yes, but the mechanism is not clear. It is postulated that some sort of secretion by the thymus might influence the synthesis of acetylcholine.

Dr. A. B. Jones: There is no explanation for the more than 50 per cent of the patients with myasthenia gravis who have no lesions of the thymus. Furthermore, there have been reports that any sort of a mass developing or even placed experimentally in the mediastinum may give rise to a syndrome similar to myasthenia gravis; also, cases have been reported in which there was removal of a mediastinal tumor with the relief of myasthenic symptoms and yet histologic study of the tissues showed no evidence of cells derived from the thymus.

Dr. Alexander: Of what value is radiation to the thymus in myasthenia gravis?

Dr. Levy: None whatsoever.

Dr. Wood: Could carcinoma of the thyroid give rise to these symptoms?

Dr. Levy: Patients with hyperthyroidism do complain of weakness, but it is not the same type of weakness which seems to have been present in this case. I think we should add that the response to prostigmine is not truly specific and an increase in strength follows its administration in many disorders of the muscles.

Dr. Bulger: An interesting parallel in cases of this type is the presence of creatinuria which was not reported in this patient but occurs in both myasthenia gravis and in disease of the thyroid. What is the significance of the diabetes in this case?

Dr. Alexander: As far as I know it is not present in myasthenia gravis. What should we think of the excess sweating described?

Dr. Bulger: That, too, suggests hyperthyroidism.

Dr. Alexander: We are met with one difficulty in considering tumors of the thymus. This patient's course is known to have extended over two years and he had some symptoms of four years' duration. That is unusually long for such a tumor.

Dr. Wood: Yes, the average tumor of the thymus results in a fatal outcome within six months.

Dr. Alexander: Furthermore, such tumors usually give rise to conspicuous symptoms due to compression of structures in the mediastinum.

Dr. Levy: As a final question I would like to know what sort of tumors in general most usually give rise to the type of metastases seen in this case?

Dr. Bottom: Most osteoplastic metastases arise either in the prostate or in the breast.

ANATOMIC DIAGNOSES*

Chronic ulcer at the esophageal-cardiac junction of the stomach.

Altered blood in the gastrointestinal tract (history of exsanguinating hemorrhage).

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

Carcinoma of the islands of Langerhans.

Metastatic carcinoma in the lungs, pleurae, kidneys, tissues of the anterior mediastinum, skull, dura, leptomeninges, ribs, vertebrae, mediastinal, bronchial, periaortic, periportal, peripancreatic and pelvic lymph nodes.

PATHOLOGIC DISCUSSION

Dr. Robert A. Moore: The autopsy observations included the presence of tumor in the lungs, pleurae, kidneys, tissues of the anterior mediastinum, skull, dura, leptomeninges, ribs, vertebrae and mediastinal, bronchial, periaortic, periportal, peripancreatic and pelvic lymph nodes. On the basis of the gross appearance the tumor might have been primary either in the mediastinum or in the pancreas. The gross appearance in these two locations was somewhat different and we at one time gave consideration to a diagnosis of two primary tumors, one in the mediastinum and the other in the pancreas.

However, the microscopic sections show a single cellular type of neoplasm. The cells are relatively large with a dense acidophilic cytoplasm and moderately chromatic nuclei. In many places the cells are oriented toward one another and form serpentine columns. The connective tissue septa between the neoplastic cells are variable in thickness but show hyalination and edema. This structure is characteristic of tumors of the islands of Langerhans and we have, therefore, made that diagnosis.

The clinical course is a little unusual for a patient with this tumor inasmuch as he lived for at least two years while the usual survival after diagnosis is less than a year. Some of the earlier symptoms may have been related to hyperfunction of the islands of Langerhans. The patient may also have had an adenoma of the islands of Langerhans at first and only within the last year developed a carcinoma. The association of a tumor of this type with diabetes has been observed previously.

We must assume that the myasthenia gravis was a general and not a specific manifestation. The thymus was not enlarged and showed no pathologic change.

The immediate cause of death was hemorrhage from a large peptic ulcer in the cardia of the stomach.

SPECIAL ARTICLE

THE NEED FOR THE HILL-BURTON BILL

A. L. HANSEN, M.D.
APPLETON CITY

The Hill-Burton Senate Bill 191, introduced in the Senate by Lester Hill of Alabama and Harold H. Burton of Ohio, is one of the most important pieces of legislation that has been introduced in Congress for a long time. It deals with rural hospitalization.

Long ago, hospitals were built for every one in

the cities. Charity hospitals were built for the poor and a variety of other hospitals were built for those who could pay. Now, one of the big issues concerning them is the Wagner-Murray-Dingell bill which is a method of paying for medical attention. The virtues and disadvantages of the provisions of that bill are many, but it will not benefit rural communities much until there is something for which to pay. There is a dire shortage of doctors in rural communities, but there is a far greater shortage of hospitals.

Because of the diagnostic and therapeutic facilities which can be had only in hospitals, it is to a large extent useless for doctors to locate in rural communities because they cannot treat the sick adequately with only their bare hands. Consequently, we have a vicious circle, the bottleneck of which is lack of rural hospitals.

The need for rural hospitals is much more real than it is apparent because the general public is not as quick to grasp improvement in medical science as they are improvements in automobiles and other inventions. Furthermore, when a man dies he does not talk and is not able to tell what was lacking, and doctors and sometimes relatives do not discuss his illness as freely as they should because of reflections that may be cast on them. When obstacles cannot be overcome, it is often nicer to say that it was "the will of God" and then remain silent rather than to go into the details of how the tragedy might have been avoided.

Before the late war, the people in the country were telling themselves about their ruggedness and many of them thought that they were too healthy to be troubled by illness and that hospitals were unnecessary except for a few unfortunate weaklings, and that it would be all right to cart them off to the city. But statistics gathered from the draft board in the late war show more 4 F's from the rural areas than from the cities, which can only be because of lack and neglect with respect to medical care.

Many people in general and some physicians have considered it advisable to transport patients from rural communities to cities for hospitalization and, to a large extent, that is what is being done today. That is very well for patients who have an illness that transportation will do no harm and for those whom only a specialist can treat. But those patients are very few. The man and woman who are in the productive period of life are the most important of all patients. The illness that these people develop which are most serious to them are such acute illnesses as pneumonia, appendicitis, pregnancies and injuries. Transportation is definitely harmful to these patients. They can be treated better in a rural hospital and, if they need a specialist, he should be brought to them and not the patient to the specialist. In the retired group of patients, a common cause of death is coronary occlusion, and these patients do not stand transportation well either.

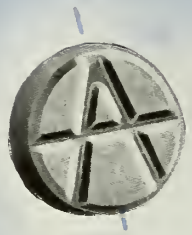
There is no field of endeavor that is being moulded more rapidly than the field of medicine. Discoveries in science are improving the practice of medicine all of the time. Many discoveries have been made during the late war which have not yet been diffused to the practice of medicine, and when these new discoveries are realized, the demand for medical attention and hospital facilities will be greater than it is now. Many people die of devastating illness and, of course, no longer need care, but as time goes on, more and more of them will live; some of them will have lost some of their vitality during their illness and are more likely to be patients needing hospital care again. Because of that, and preventive medicine, life expectancy will be higher, making more and more old people. Therefore, in building these hospitals, they should be bigger and finer than a given community needs at the present time.

When highways were built, they were nearly always too narrow and the curves were too sharp, causing casualties; to die in hospitals because of lack of facilities would be no better than to die on a road because it is too narrow.

At present it might be said there are not enough doctors in rural areas to staff hospitals. But doctors will never go to rural communities willingly until there are rural hospitals. All doctors want the benefit of roentgen ray and laboratory technicians. They will always want to be where blood transfusions can be given and emergency operations performed and where their patients will not be taking unnecessary risks—and that will be only in a hospital. A physician will never want to go or stay in a place where patients must go to other places for treatment of illness that he is well prepared to treat but cannot do so only because there is no hospital in which he can do his best work. Hospitals in rural communities are the only thing that will give physicians an even chance with other members of his profession, and they are the only thing that will induce physicians to go and stay in rural communities. That situation is apparent today, and it will become more evident as science improves medicine. Therefore, in the future, rural communities without hospitals will have less doctors.

An important question is, what manner of hospital should a rural hospital be? It should not only be a hospital, it should be a hospital and a community health center. They should be in towns large enough to have second class post offices. They should have no connection with county government, but should be ruled by a board of directors appointed by the mayor of the town, and by those who build up an endowment—if such be the method of finance. It should be a nonprofit institution with a yearly deficit that should be paid by endowments, and by county, state and Federal governments.

Due to the fact that not all communities will see fit to have a hospital, these hospitals should be larger and more magnificent than the town needs at the time of building, thereby making it more a



yerst



nnounces

the introduction of

"ENZIFLUR" TABLETS

Reg. U. S. Pat. Off.

as an aid in the prevention of dental caries

Representing a new and important chapter in preventive medicine, clinical studies* have shown that vitamins C and D markedly enhance the action of calcium fluoride in the reduction of the caries experience rate in children.

Each "ENZIFLUR" Tablet provides:

Calcium fluoride..... 2.0 mg.
Vitamin C (ascorbic acid).....30.0 mg.
Vitamin D (irradiated ergosterol)..400 I.U.
(U.S.P. XII)

One tablet daily supplies the optimal amount of fluorine and adult minimum requirements of vitamins C and D as an aid in the prevention of dental caries.

*Strean, L.P. and Beaudet, J.P.: New York State J. Med., 45:2183 (Oct. 15) 1945.

Ayerst

AYERST, McKENNA & HARRISON Limited
22 East 40th Street · New York 16, N. Y.

matter of civic pride and be an impetus in that it will bring benefits to the business of the town.

They should be about thirty beds or more, depending on the density of the population, and built with the idea of probable expansion. They should have all the equipment that a hospital of that size can use. They should have a nurses' home in a building separate from the hospital. They should be in a community of 4,000 or larger that wants a hospital badly enough so that they are willing to contribute toward its construction and maintenance. These hospitals should be built by Federal and local funds and owned by the town in which they are located. directed by a board of directors appointed by the mayor or elected by the stockholders—if it be a corporation—or both. They should be under the supervision of the Surgeon General of the United States and the State Advisory Committee and the State Board of Health.

Due to the fact that some communities are more prosperous than others, the ratio of the amount that a town must furnish should vary, and the ratio that each town should pay should be determined by the Surgeon General of the United States. When a town applies to the State Advisory Committee for Federal funds for the construction and maintenance of a hospital, the area should be appraised by agents of the Surgeon General and be classified as to the proportion it should pay. The government probably should furnish not less than $2.00 for the town's $1.00, and probably not more than $4.00 to the town's $1.00, and the same ratio should be applied for paying the hospital's yearly deficit.

The Surgeon General should make the rules of construction and management of the hospital, which are to be carried out by the board of directors of the town in which it is located.

An example of what can be done are the hospitals built by the Commonwealth Fund. I visited one recently. Considering the way patients lay on wrinkled sheets in mussed up beds, and crowded in small, unsatisfactory hospitals with poor equipment and help, which is the best one can obtain in most communities, the Commonwealth Hospital and its management is wonderful. In fact, it was better than any city hospital that I have ever seen in that the patient was not only another "case," he was a human being and a person of the institution. The patients there probably do not know how fortunate they are, and the people in other communities do not know what they are missing.

This article was not written with the thought that it is going to add anything to the impetus of Federal officials. They already have the desire as is demonstrated by the Hill-Burton bill and its favorable reception in the Senate. But it is written with the thought of giving those concerned an insight into the situation, such as only can come from a person who lives in a rural community. The Hill-Burton bill was passed by the Senate on December 11, 1945, but as yet has not come up for vote in the House of Representatives.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 6. June, 1946.

DIAGNOSIS AND POSTSANATORIUM CARE IN PULMONARY TUBERCULOSIS

Familiarity with tuberculosis if it has not bred contempt has led at least occasionally to oversight on the part of physicians who have been lulled into complacency by the declining death rate. An occasional review of a disease, even so familiar a one as tuberculosis, helps to focus attention upon it. Two cases illustrate this point.

In the first case, a woman came to the sanatorium after having had a cough for an extended period of time. She had consulted her physician because of this cough and had even suggested tuberculosis. This possibility was ignored. After some months she consulted another physician. A diagnosis of tuberculosis was made at once. By this time her tuberculosis was very far advanced.

In the other case, a patient had consulted a reputable doctor for a like complaint and had requested a sputum examination. This doctor, likewise, was reluctant to consider such a possibility. After several months the woman consulted another physician and a sputum sample was obtained. Tubercle bacilli were present and the patient was admitted to the sanatorium.

It is desirable to refer patients back to their original family physicians after they are ready to leave the sanatorium, but it becomes difficult, if not impossible, in such cases.

Diagnosis. Diagnosis of tuberculosis may be reviewed very briefly before passing on to postsanatorium treatment. In the diagnosis of tuberculosis the Mantoux test, preferably using P.P.D., is very reliable. A negative test means that the patient has not had tuberculosis or, as infrequently happens, has healed a tuberculosis by calcification so that all tubercle bacilli are killed. In a very far advanced, very active disease, the test will be negative occasionally. A positive test means that at some time the patient has had an active tuberculosis. It will not indicate whether or not the disease is now active nor in what part of the body it is located.

A clinical history is essential in a diagnosis of pulmonary tuberculosis. Only one or two symptoms may be present, however, and a patient can have an active disease that is practically asymptomatic. Our old classic symptoms of pulmonary tuberculosis consist of afternoon fever, loss of weight, loss of strength, night sweats, cough, hemoptysis and dyspnea, usually with an increased pulse rate. Any of these symptoms, particularly a persistent cough, demands a very careful examination for tuberculosis including a roentgen ray of the chest.

Results of physical examination will vary great-



You Will Find Spencer Breast Supports

Effective For

ANTEPARTUM-POSTPARTUM PATIENTS
AND AS AID TO TREATMENT OF
NODULES - PROLAPSE - ATROPHY
STASIS - HYPERTROPHY
AND FOLLOWING BREAST SURGERY

Individually Designed For Each Patient

Since each Spencer Breast Support is *individually designed* it fits with precision and comfort; holds breasts in position to encourage improved circulation without placing undue strain on shoulders.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop," or write direct to us.

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxon.

May We Send You Booklet?

Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

Name ..... M.D.

Street .....

City & State V-6-46

SPENCER *INDIVIDUALLY DESIGNED* SUPPORTS
Reg. U.S. Pat. Off.
For Abdomen, Back and Breasts

ly, depending on the location and extent of the lesion. Unfortunately, only positive findings can be relied upon.

For roentgen ray examination the 14″ x 17″ stereo plate is the one to be desired. The 14″ x 17″ single plate is fairly reliable but not as accurate as the 14″ x 17″ stereo. The miniature film is used mainly for mass survey work and is not reliable as the sole diagnosis in a given case of tuberculosis.

In laboratory examination of sputum, the direct smear is unreliable, unless the organisms are found. In case the organisms are not found, examination of the concentrated sputum (or fasting gastric contents) should be made. The culture is more reliable than the concentrate examination while guinea pig inoculation is of still more value. A single negative sputum is not reliable. A patient with a far advanced tuberculosis, even with cavity formation, may have a consistently negative sputum. The blood count is not a reliable diagnostic aid, although there is usually an increased white count with some disturbance in the differential. The monocyte count is increased. It is impossible to use this, however, as a differential diagnostic base. Sedimentation rate is usually increased and may run as high as 150.

On differential diagnosis atypical pneumonias may be rather difficult to rule out, particularly in the case of an active tuberculosis with a negative sputum. However, an atypical pneumonia is more frequently found in the lower portion of the lung field. Bronchiectasis is usually located in the lower portion of the lung field near the mediastinum and can be confirmed by lipiodol visualization.

The metastic malignant tumors are usually rather easy to recognize. The occasional gelatinous tuberculous infiltrate may resemble a metastatic nodule. The original malignancy frequently may be detected in some other portion of the body. A bronchogenic type of malignancy usually differs quite markedly on the roentgen ray from a tuberculous infiltration. Nonmalignant tumors are usually easily differentiated from a tuberculosis. Boeck's Sarcoid somewhat resembles tuberculosis and is usually in the midportion of the lung field. Sputum is negative and the Mantoux is likewise negative. A bronchitis usually presents no radiographic findings except for slightly increased markings and is usually in the lower portion of the lung field. Cardiac involvement shows a marked increase in the transverse diameter of the heart. The fungus infections are usually discovered easily on sputum examination. The various types of pneumoconiosis are frequently seen in mining communities.

Postsanatorium Treatment. All patients should be kept at the sanatorium until they have had at least two hours' walking exercise daily for a period of two months. Their sputum must be consistently negative and the roentgen ray must show regression of the lesions. The patient must be afebrile. Treatment at home will depend on the treatment given at the sanatorium. Suggested treatment at home for

the patient who has received no collapse therapy should include two hours of rest in the morning and two hours in the afternoon. The rest periods should be observed strictly at the same hours each day. It is important to have the patient retire at the same early hour each night. If the patient stays up until midnight some nights, it is impossible to regain what has been lost, even were he to stay in bed the entire next day.

With only two hours' walking exercise, no work is to be attempted. It is usually possible to increase the walking exercise about ten minutes a week. Sputum and roentgen ray examinations should be secured at three-month intervals. When a patient with pneumothorax is discharged from the sanatorium the above treatment will be supplemented by pneumothorax refills at intervals. The length of time between refills and the amount of air at each refill will vary depending on the rate at which the patient absorbs the air and on his activity. This can be determined only by close observation of the patient and fluoroscopic examination or roentgen rays at frequent intervals. A patient with a phrenic, thoracoplasty, or a paraffin pack requires the same postsanatorium treatment as the patient without any collapse therapy. A patient with an extrapleural pneumothorax requires the same care as the patient with an intrapleural pneumothorax.

Diagnosis and Postsanatorium Care in Pulmonary Tuberculosis, W. L. Meyer, M.D., The Journal-Lancet, December, 1945.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for June and July, which all members are invited to attend, beginning at 1:00 p. m., follows:

June 5: Miscellaneous.
June 7: Gynecologic and Genito-urinary.
June 12: Skin.
June 14: Breast.
June 19: Gastrointestinal.
June 21: Cervix.
June 26: Skin.
June 28: Head and Neck.
July 3: Miscellaneous.
July 5: Gynecologic and Genito-urinary.
July 10: Skin.
July 12: Breast.
July 17: Gastrointestinal.
July 19: Cervix.
July 24: Skin.
July 26: Head and Neck.
July 31: Bone and Lymphomas.

BOOK REVIEWS

ESSENTIALS OF CLINICAL ALLERGY. By Samuel J. Taub, M.D., Professor of Medicine, Cook County Graduate School of Medicine; Attending Physician in Medicine, Cook County Hospital; Fellow of the American Academy of Allergy; Formerly, Assistant Professor of Medicine, Rush Medical College of the University of Chicago. Baltimore: The Williams & Wilkins Company. 1945. Price $3.00.

A relatively small and concise volume is Dr. Taub's contribution to the literature which adequately and effectively covers the field of allergy as it is applicable to the practice of general medicine. Only a small portion of the book is devoted to the underlying immunological concepts upon which practical allergy is based. The principal entities of the field are dealt with in sufficient detail to enable the general practitioner to cope with the more common allergic manifestations that present themselves and attention is called to and stress laid upon those allergic entities that are seen but often misdiagnosed by the practitioner in the limited fields of medicine.

Effective management of the patient with a recurring or perennial allergic manifestation depends primarily on the diagnostic conclusions and by this, Dr. Taub stresses, is meant the discovery of all allergens to which the patients may respond with a single manifestation or in a carefully taken history multiple manifestations may be discovered. These are the facts that seem to confuse the picture of allergy for the general practitioner. Due importance is given by Dr. Taub to the carefully taken history that will seem to dispense some of the smoke of this confusion, and due consideration to an orderly approach to the discovery of the patient's allergens. For upon these two prime principles depends the physicians success in management and therapy.

Immediate treatment, management, and the more definitive weapon of the allergist, namely hyposensitization to specific allergens, are all covered adequately. Tables of allergens, elimination diets and methods of preparing extracts are quite complete.

Very little credence is expressed by the author in the theory that histamine or histamine-like substances may be the common excitant of all allergic manifestations and hence little discussion as to the use of histamine in treatment, except in the field of physical allergy, is forthcoming—a disappointment to the reviewer.

The authors expressed aim "to make the field of allergy easily accessible to practitioner and medical student" is accomplished. P. L. B.

OSSEOUS SYSTEM. A Handbook of Roentgen Diagnosis. By Vincent W. Archer, M.D., Professor of Roentgenology, University of Virginia Department of Medicine. Chicago: The Year Book Publishers, 304 South Dearborn Street. 1945. Price $5.50.

Similar in character to the other handbooks of this series, the subject matter is presented in a straightforward concise manner which should be very acceptable to the busy physician.

According to the author, "This volume is written for and is dedicated to the occasional radiographer." The text has been boiled down to a minimum and should be regarded as a primer rather than an encyclopedia. The book should be looked on as pointing to the next step rather than giving the whole answer. Be that as it may, I feel sure that many radiologists will find much of interest in his manner of presentation and the subject matter in this book. Surely no resident or student of radiology should be without it.

Well over half of the book is devoted to bone injuries. The author has drawn upon his rich experiences gained over many years of radiologic practice to point out the pitfalls of diagnosis which may beset the unwary. It is this wealth of detail in personal experience which makes the book so valuable to the student of radiology.

In a similar manner other bone diseases are dealt with, giving in intimate detail the reason for coming to a differential diagnosis of various conditions.

His presentation of the bone diseases peculiar to infancy and childhood should be welcomed by the pediatrician. L. R. S.



Protein a problem?

Use one of these Special Infant Foods

Altered Protein

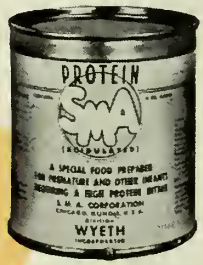


HYPO-ALLERGIC* WHOLE MILK

Particularly suited for infants and children allergic to cow's milk protein, Hypo-Allergic Milk has been rendered less allergenic by means of prolonged thermal processing. When reconstituted with water it is used in the same proportion as whole cows' milk.

POWDER—1 lb. tins **LIQUID 14½ oz. tins**

High Protein



PROTEIN S-M-A* (Acidulated)

The easily digested curd and liberal vitamin content makes Protein S-M-A a valuable aid in the management of premature and undernourished newborn infants. Also indicated in infant diarrhea and other conditions where a high protein intake is required.

POWDER—8 oz. tins

No Protein



ALERDEX*

Protein-free Maltose and Dextrins

An all-around milk modifier especially useful in the hypo-allergenic milk diet of the infant sensitive to proteins, Alerdex is prepared from noncereal starch by a special procedure to eliminate every trace of protein.

POWDER—16 oz. tins

ACCEPTED AMERICAN MEDICAL ASSN.

S. M. A. DIVISION

*REG. U. S. PAT. OFF.

WYETH INCORPORATED Wyeth PHILADELPHIA 3, PA.

REG. U. S. PAT. OFF.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

JUNE, 1946

EDITORIALS

URGENT

House Bill No. 206, known as the Doctors' Prefix Bill, becomes law on July 1, 1946. Members are urged to make appropriate changes immediately in their office name plates, stationery, cards, prescription blanks and such. The law provides that any one using the word "Doctor" or "Dr." before his name must affix words or letters after his name designating the degree held or the type of practice in which the individual is engaged.

Example
Dr. John Smith, M.D.
or
John Smith, M.D.
Physician and Surgeon

NOT
Dr. John Smith
Physician and Surgeon

The law applies as well to dentists, osteopaths, chiropractors, optometrists or any other person practicing a healing art and using the word "Doctor" or "Dr." before his name. The full bill appears on page 411.

A SALUTE TO THE MISSOURI LEGISLATURE

This is primarily a tribute to the members of the Missouri State Legislature who worked untiringly and at times it seemed almost endlessly to make the changes in our laws made necessary by the new Constitution. At the same time it is a report to members about matters affecting the health and welfare of the citizens of Missouri.

The voters of Missouri adopted this new Constitution for the state on February 27, 1945. Included in this new Constitution was a provision requiring the Legislature to create a new Department of Public Health and Welfare. Also included was a provision that all agencies, boards, bureaus and commissions of the state be consolidated into not more than fourteen individual departments. Considering the fact that there existed some hundred odd different agencies handling the multiplicity of detail in our state government, it becomes apparent that the framers of the Constitution left the state Legislature a job of no small proportions.

In order to create a workable Department of Public Health and Welfare, as well as other departments, the Legislature created special committees to consider the various problems. A special committee of public health and welfare studied the ramifications of this huge department for well over a year. Only after much debate and careful consideration was this new important branch of state government established.

The department follows the cabinet form of government. Three major divisions are contained in the department. These are the divisions of Public Health, Mental Disease and Social Welfare. The department is to be headed by a director appointed by the governor. Each of the three divisions is to be headed by a director.

The boards and commissions which formerly were in charge of the various activities have been abolished—thus the board of health, the board of eleemosynary managers and the social security commission have been abolished by law and will cease to function on July 1 of this year.

The Department of Public Health and Welfare will take over the responsibility for the operation of these functions. Assigned to the Division of Health and under the direct supervision of the director of health are the following: all activities formerly handled by the state board of health except the licensing and registration of persons; the tuberculosis sanitarium at Mount Vernon, and the state cancer commission.

The Division of Mental Diseases will have control over all the state hospitals for the mentally ill which formerly were handled by the Board of Eleemosynary Managers.

In order to take care of the examination and licensing of physicians and surgeons, a new board has been created known as the Board of Medical Examiners. This board, composed of six doctors of medicine, will be responsible for the registration, examination and licensing of all persons who desire to practice medicine, surgery and midwifery in this state. This board, together with all other boards having to do with the licensing and examination of persons such as the board of nurse examiners, board of dental examiners and board of osteopathic examiners has been assigned to a Division of Registration and Examination in the Department of Education.

This has been a complicated task and it is difficult to comprehend the sacrifice in time and, in most cases, in compensation that each member of the General Assembly made in carrying out this mandate of the voters. Suffice it to say "Thank you, Senators and Representatives, for a job well done."

NEWS NOTES

Drs. Laurence E. Wood, Lyman K. Richardson and Gordon P. Barnett, Kansas City, were guest speakers at a dinner meeting of the Kansas City Tuberculosis Society on April 25.

Dr. M. P. Leech, Fayette, has been made a junior partner in the Lee Hospital, Fayette, with Drs. W. A. Bloom and W. J. Shaw.

Dr. Howard B. Goodrich, Hannibal, spoke at a luncheon meeting of the Kiwanis Club in Canton on April 9. His subject was "Medical Care for the American People."

Dr. J. H. Gaskins, Kansas City, spoke before the Monday Club at Marshall at the Missouri Valley College early in April.

Dr. French K. Hansel, St. Louis, spoke before the Linn County (Iowa) Medical Society at Cedar Rapids, Iowa, on May 9, on "Respiratoryology."

Mr. Ray F. McCarthy, executive director of the St. Louis Blue Cross Plan since its organization in 1936, has resigned to enter the automobile business in St. Louis. He will continue his association with the plan in a consulting capacity, giving special attention to the coordination of the St. Louis plan with the national program of other plans through his work as a member of the Blue Cross Commission. Mr. Elmer F. Nester, who has been associate director of the St. Louis Blue Cross for the last six years, will succeed Mr. McCarthy.

The Southern Medical Association announced its meeting in Miami on November 4 to 7, 1946, at a dinner in St. Louis at which officers of the Southern Medical Association, officers of the St. Louis County Medical Society, the St. Louis Medical Society and the Missouri State Medical Association were guests.

Dr. Buford G. Hamilton, Kansas City, is retiring from practice after forty years in obstetrical work in Kansas City. Dr. Hamilton went to Kansas City as an associate of the late Dr. George Mosher and has restricted his work to obstetrics. Dr. Hamilton plans to spend much of his time at a farm near Richmond where his great grandfather settled when he came to Missouri from Kentucky.

PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Allee, James W., M.D., Eldon.
Appleberry, C. H., M.D., Flat River.
Atkins, James, M.D., Lamar.
Baker, James M., M.D., Columbia.
Berney, Francis J., M.D., St. Joseph.
Bickel, Vern T., M.D., Lamar.

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Merle Q. Howard, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.

Arthur J. Patek, M.D.

G. H. Schroeder,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



Bohrer, Edward R., M.D., Jefferson iCty.
Brasher, Ben H., M.D., Lexington.
Bredall, Jerome J., M.D., Perryville.
Brookreson, A. F., M.D., Poplar Bluff.
Broyles, Watkins A., M.D., Bethany.
Brumm, Harold J., M.D., St. Joseph.
Camp, George H., M.D., Springfield.
Chiarotinno, Joseph F., M.D., St. Joseph.
Cooper, Maurice E., M.D., Columbia.
Clark, Ray A., M.D., Lawrence, Kansas.
Craig, Irwin T., M.D., Joplin.
Craig, Owen, M.D., St. Joseph.
Crouch, F. Richard, M.D., Farmington.
Darnell, Thomas F. B., M.D., Macon.
Davis, Wilbur L., M.D., Charleston.
Day, Maxwell, M.D., St. Joseph.
Dixon, John R., M.D., Linneus.
Dowell, Donald M., M.D., Chillicothe.
Duckett, Thomas G., M.D., Hiawatha, Kansas.
Eberhard, Theodore P., M.D., Columbia.
Elkins, Ronald F., M.D., Springfield.
Ellis, Coburn H., M.D., Sweet Springs.
Evans, Ezra L., Jr., M.D., Springfield.
Eyermann, H. W., M.D., Warrenton.
Forgrave, John R., M.D., St. Joseph.
Garcia, Charles L., M.D., Mexico.
Goldberg, I. E., M.D., Polo.
Good, Raymond F., M.D., Independence.
Greene, Harry L., M.D., Hannibal.
Griffith, Harry M., M.D., Columbia.
Grossman, Marvin, M.D., Fredericktown.
Hall, Frank W., M.D., Cape Girardeau.
Hanss, A. W., M.D., Springfield.
Hargrove, Fred T., M.D., Monett.
Harwell, J. Lester, M.D., Poplar Bluff.
Haw, Marvin T., Jr., M.D., Bonne Terre.
Herbert, Charles T., M.D., Cape Girardeau.
Hogg, Garrett, Jr., M.D., Cabool.
Howe, Louis F., M.D., Brentwood.
Howell, Hickman C., M.D., Springfield.
Hughes, J. M., M.D., St. Joseph.
Isbell, Charles, M.D., Carthage.
Johnston, Andrew D., M.D., Waynesville.
Jones, James B., M.D., Rolla.
Jones, Paul L., M.D., Flat River.
Juden, A. G., M.D., Cape Girardeau.
Kelley, Gilbert B., M.D., Savannah.
Kelling, Douglas G., M.D., Waverly.
Kimes, Ira D., M.D., Cameron.
Kinney, Wm. M., M.D., Riverside, Calif.
Kitchen, William M., M.D., Moberly.
Knepper, Paul, M.D., St. Joseph.
Kulowski, Jacob, M.D., St. Joseph.
Landau, Daniel B., M.D., Hannibal.
Leech, Charles A., M.D., Columbia.
Lewellen, Charles H., M.D., Louisiana.
McDonald, W. P., M.D., St. Joseph.
McKinstry, Karl V., M.D., DeSoto.
McNew, William T., M.D., Carthage.
McPheeters, J. W., M.D., Poplar Bluff.
Morse, Marvin, M.D., St. Joseph.
Mullinax, Orr., M.D., St. Joseph.
Murphy, B. L., M.D., Hannibal.
O'Brien, James A., M.D., Joplin.
O'Donoghue, James, M.D., St. Joseph.
Platz, John H., M.D., Carrollton.
Pearse, Roy W., M.D., Nevada.
Post, Cyril A., M.D., Poplar Bluff.
Post, Winfred L., M.D., Joplin.
Redmond, William, M.D., St. Joseph.
Robichaux, E. B., M.D., Excelsior Springs.
Robinson, George G., M.D., Humansville.
Rost, William B., M.D., St. Joseph.
Rowe, A. R., M.D., Popular Bluff.
Saferstein, H. T., M.D., St. Joseph.
Schwartz, Eugene J., M.D., Springfield.
Scorse, S. W., M.D., Webb City.
Senne, Herbert C., M.D., St. Joseph.
Shelton, Edwin Olney, M.D., Eldon.
Silsby, Don J., M.D., Springfield.
Smith, James O., M.D., Clinton.
Smith, Rollin H., M.D., Rich Hill.
Spelman, Arch E., M.D., Smithville.
Squibb, Joseph W., M.D., Springfield.
Stacey, W. T., M.D., St. Joseph.
Stewart, William J., M.D., Columbia.
Stone, William E., M.D., Boonville.
Summers, J. S., Jr., M.D., Jefferson City.
Schuhmacher, N. R., M.D., Liberty.
Stricker, E. A., M.D., St. James.
Stuart, Daniel D., M.D., Brunswick.
Summers, Jacob H., M.D., Lebanon.
Talty, M. H., M.D., St. Joseph.
Taylor, Leon A., M.D., Jefferson City.
Thibault, Frank J., M.D., Neosho.
Thompson, F. Gregg, Jr., M.D., St. Joseph.
Throgmorton, H. B., M.D., Sikeston.
Vandiver, V. D., M.D., Chillicothe.
Van Ravenswaay, Arie C., M.D., Boonville.
Wallace, Edwin S., M.D., Lexington.
Wallace, Hilen K., M.D., St. Joseph.
Well, J. W., M.D., Palmyra.
Wepprich, Michael S., M.D., St. Charles.
Whitten, Foster, M.D., Carthage.
Wimp, J. J., M.D., Kirksville.
Wood, George F., M.D., Fulton.
Wood, George H., M.D., Carthage.
Wray, R. B., M.D., Nevada.
Yancey, Daniel L., M.D., Springfield.

Jackson County

Ahlefeld, Chas. B., M.D., Kansas City.
Allen, William B., M.D., Kansas City.
Anderson, Richard W., M.D., Kansas City.
Baer, Alvin J., M.D., Kansas City.
Beal, Homer A., M.D., Kansas City.
Becker, Richard R., M.D., Kansas City.
Bee, James E., M.D., Kansas City.
Bennett, James Dale, M.D., Kansas City.
Benzing, Wm. M., Jr., M.D., Kansas City.
Berry, Maxwell G., M.D., Kansas City.
Bills, Marvin L., M.D., Kansas City.
Brams, Jack B., M.D., Kansas City.
Brown, Irwin S., M.D., Kansas City.
Buhler, Victor B., M.D., Kansas City.
Byers, Philip L., M.D., Kansas City.
Caldwell, John K., M.D., Kansas City.
Carlson, Hjalmar E., M.D., Kansas City.
Carmichael, F. A., Jr., M.D., Kansas City.
Chambers, James W., Jr., M.D., Kansas City.
Coburn, Donald F., M.D., Kansas City.
Coffey, Ralph R., M.D., Kansas City.
Cohen, Harry K., M.D., Kansas City.
Comboy, L. J., M.D., Independence.
Conrad, Joseph A., M.D., Dodge City, Kansas.
Cox, Kenneth E., M.D., Kansas City.
Curran, Desmond, M.D., Kansas City.
Danglade, James H., M.D., Kansas City.
Diveley, Rex. L., M.D., Kansas City.
Duncan, Ralph E., M.D., Kansas City.
Erni, Harry, M.D., Kansas City.
Eubank, D.M., M.D., Raytown.
Eubank, William R., M.D., Kansas City.
Flanders, Horace F., M.D., Kansas City.
Fowler, I. Charles, M.D., Kansas City.
Frazier, V. Eugene, M.D., Kansas City.
Frick, J. Paul, M.D., Kansas City.
Gard, Raymond F., M.D., Kansas City.
Ginsberg, Norman A., M.D., Kansas City.
Gist, Wm. L., M.D., Kansas City.
Gist, William W., M.D., Kansas City.
Glasscock, Ernest L., M.D., Kansas City.
Goodman, LeRoy, M.D., Kansas City.
Greene, W. Wallace, M.D., Richmond.
Griffith, George W., M.D., Garden City.

Just Released! **Key & Conwell's**



NEW 4th EDITION

FRACTURES, DISLOCATIONS & SPRAINS

* More than 200 new illustrations added and substituted.

* All recent developments in theory and practice included.

* Section on war wounds revised especially with regard to skeletal fixation and chemotherapy.

* Complete revision of the chapter on Injuries of the Spine. Davis contributes a description of his gravity suspension method for the treatment of compression fractures of the spine and the section on cervical fractures and dislocations.

By JOHN ALBERT KEY, B.S., M.D., & H. EARLE CONWELL, M.D., F.A.C.S.
1322 PAGES 1316 ILLUSTRATIONS

PRICE, $12.50

Order your copy now!

THE C. V. MOSBY COMPANY MJ 6/46
3207 Washington Boulevard
St. Louis 3, Missouri

Gentlemen: Send my copy of Key and Conwell's Fourth Edition
FRACTURES, DISLOCATIONS AND SPRAINS, $12.50

Attached is my check. Charge my account.

Name .....

Address .....

Growdon, John A., M.D., Kansas City.
Halperin, Phillip, M.D., Kansas City.
Hamilton, Eugene, M.D., Kansas City.
Hamilton, Hugh G., M.D., Kansas City.
Harding, Carl W., M.D., Kansas City.
Harless, Morris S., M.D., Kansas City.
Hashinger, Edward H., M.D., Kansas City.
Helwig, F. C., M.D., Kansas City.
Hill, Jack H., M.D., Kansas City.
Hoffman, J. S., M.D., Kansas City.
Hogan, Daniel F., M.D., Kansas City.
Hogue, Frank S., M.D., Kansas City.
Hollweg, K. C., M.D., Kansas City.
Hook, Waller G., M.D., Kansas City.
Howard, John C., M.D., Kansas City.
Hungate, Carroll P., M.D., Kansas City.
Jackson, D. A., M.D., Kansas City.
Jarvis, James A., M.D., Kansas City.
Johnston, Paul N., M.D., Kansas City.
Kerr, Russell W., M.D., Kansas City.
Klein, Edward H., M.D., Kansas City.
Knight, John S., M.D., Kansas City.
Kranson, Seymour J., M.D., Kansas City.
Kyger, E. Ross, M.D., Kansas City.
Kuhn, William F., M.D., Kansas City.
Lacy, Eugene N., M.D., Kansas City.
Lee, Chester E., M.D., Kansas City.
Levey, Harry B., M.D., Kansas City.
Lieberman, B. Albert, Jr., M.D., Kansas City.
Linquist, Carl N., M.D., Kansas City.
Marks, Mark M., M.D., Kansas City.
McAlester, A. W., M.D., Kansas City.
McClanahan, Robert C., M.D., Kansas City.
Miller, Clint L., M.D., Kansas City.
Miller, Gerald L., M.D., Kansas City.
Mooney, Justin L., M.D., Kansas City.
Mooney, Marcel L., M.D., Kansas City.
Morest, F. Stanley, M.D., Kansas City.
Morgan, David B., M.D., Kansas City.
Moss, Paul, M.D., Kansas City.
Myers, Robert M., M.D., Kansas City.
Nelson, Charles S., M.D., Kansas City.
Owens, Guy E., M.D., Kansas City.
Parker, Hubert M., M.D., Kansas City.
Perry, Ralph, M.D., Kansas City.
Pipkin, F. Garrett, M.D., Kansas City.
Platt, Paul C., M.D., Kansas City.
Polsky, Morris, M.D., Kansas City.
Rice, Grover C., M.D., Kansas City.
Richardson, Lyman K., M.D., Kansas City, Kansas.
Robb, Thomas P., M.D., Kansas City.
Robinson, E. Kip, M.D., Kansas City.
Robinson, G. Wilse, Jr., M.D., Kansas City.
Roy, Gustave A., M.D., Kansas City.
Samuelson, E. A., M.D., Kansas City.
Saunders, Everett L., M.D., Independence.
Schaerrer, Hans, M.D., Kansas City.
Schutz, Richard B., M.D., Kansas City.
Sheldon, John, Jr., M.D., Kansas City.
Smith, Arthur B., M.D., Kansas City.
Stapp, Roth V., M.D., Kansas City.
Stockwell, Arthur L., M.D., Kansas City.
Stofer, Dar D., M.D., Kansas City.
Sutton, Richard L., Jr., M.D., Kansas City.
Swisher, Robert C., M.D., Kansas City.
Tasker, Charles, M.D., Kansas City.
Trowbridge, E. H., Jr., M.D., Kansas City.
Underwood, Johnson J., M.D., Kansas City.
Unger, Harold, M.D., Kansas City.
Wade, Frederick E., M.D., Kansas City.
Wakefield, Franklin H., M.D., Kansas City.
White, George A., M.D., Kansas City.
Wilkinson, E. A., M.D., Kansas City.
Willhelmy, E.W., M.D., Kansas City.
Wilson, F. I., M.D., Kansas City.
Wood, Laurence E., M.D., Kansas City, Kansas.
Wright, Robert Paul, M.D., Kansas City.
Ziegler, A.M., M.D., Kansas City.
Zellermayer, Jacob, M.D., Kansas City.
Zuber, Harold V., M.D., Kansas City.

St. Louis

Agress, Harry, M.D., St. Louis.
Aker, Cecil G., M.D., St. Louis.
Allen, Henry C., M.D., St. Louis.
Altheide, J. Paul, M.D., St. Louis.
Alvis, Edmund B., M.D., St. Louis.
Alyward, H. J., M.D., St. Louis.
Anschuetz, Robert R., M.D., St. Louis.
Arbuckle, Millard F., M.D., St. Louis.
Arneson, A. N., M.D., St. Louis.
Backlar, Joseph, M.D., Richmond Heights.
Bagby, James W., M.D., St. Louis.
Bailey, W. H., M.D., St. Louis.
Barger, John A., M.D., Florissant.
Barnhart, W. T., M.D., St. Louis.
Barrett, Ralph M. S., M.D., St. Louis.
Bartlett, Robert W., M.D., St. Louis.
Bartlett, Willard, Jr., M.D., St. Louis.
Bartnick, Mitchell L., M.D., St. Louis.
Bassett, Robert B., M.D., St. Louis.
Bassman, Roland S., M.D., St. Louis.
Beam, Sim F., M.D., St. Louis.
Bechtold, Frederick F., M.D., Springfield, Mo.
Becker, George H., M.D., St. Louis.
Behan, Lawrence G., M.D., St. Louis.
Benjamin, Durand, M.D., St. Louis.
Berger, Edward J., M.D., St. Louis.
Bess, George C., M.D., St. Louis.
Beyer, Edward J., M.D., St. Louis.
Bilsky, Nathan, M.D., St. Louis.
Birsner, Louis J., M.D., St. Louis.
Bockelman, Clifford H., M.D., Brentwood.
Boedeker, Roy V., M.D., St. Louis.
Boemer, Lilburn C., M.D., St. Louis.
Bortnick, Arthur R., M.D., St. Louis.
Bozalis, George S., M.D., Oklahoma City, Okla.
Bressler, Bernard, M.D., St. Louis.
Brown, James B., M.D., St. Louis.
Brown, Seymour, M.D., St. Louis.
Burford, E. Humber, M.D., St. Louis.
Burst, Emil A., M.D., St. Louis.
Cady, Lee D., M.D., St. Louis.
Carney, Joseph E., M.D., St. Louis.
Casey, Edwin J., M.D., St. Louis.
Cassidy, Leslie D., M.D., St. Louis.
Cason, Elbert N., M.D., St. Louis.
Catanzaro, Anthony F., M.D., St. Louis.
Charles, B. H., M.D., St. Louis.
Cleary, Frank, M.D., St. Louis.
Collins, John M., M.D., St. Louis.
Conrad, Adolph H., Jr., M.D., St. Louis.
Cordonnier, Justin J., M.D., St. Louis.
Costrino, Joseph, M.D., St. Louis.
Crossman, Robert W., M.D., St. Louis.
Cutler, Harold M., M.D., St. Louis.
Dalton, Arthur R., M.D., St. Louis.
Daly, John R., M.D., St. Louis.
Deutch, Max, M.D., St. Louis.
Devereaux, James A., M.D., St. Louis.
Diehr, Maurice A., M.D., St. Louis.
Dobbs, Otto R., M.D., St. Louis.
Dowd, James F., M.D., Richmond Heights.
Drake, Truman G., M.D., St. Louis.
Drey, Norman W., M.D., St. Louis.
Drury, Robert L., M.D., St. Louis.
Dworkin, Saul, M.D., St. Louis.
Echterhoff, Harry R., M.D., St. Louis.
Eckert, Clarence T., M.D., St. Louis.
Edwards, Joseph C., M.D., St. Louis.
Eidelman, J. Robert, M.D., St. Louis.
Eimer, Charles E., M.D., St. Louis.
Ferrara, John P., M.D., St. Louis.
Fischer, Eric, M.D., St. Louis.



Right on the Job . . .
and Performing Efficiently

Neo-Synephrine minimizes the distressing nasal symptoms of common colds . . . permits patients to work more comfortably, sleep more restfully—even during the acute stages of coryza.

Neo-Synephrine

HYDROCHLORIDE

L-ARTERENOL · d · HYDROXY · β · METHYLAMINO · 3 · HYDROXY · ETHYLBENZENE HYDROCHLORIDE

For Nasal Decongestion

THERAPEUTIC APPRAISAL: Quick-acting, long-lasting . . . nasal decongestion without appreciable compensatory recongestion; virtually free from cardiac and central nervous system stimulation; consistently effective upon repeated use; no appreciable interference with ciliary activity; isotonic to avoid irritation.

INDICATED for symptomatic relief in common cold, sinusitis, and nasal manifestations of allergy.



ADMINISTRATION may be by dropper, spray or tampon, using the ¼% in saline or in Ringer's solution in most cases—the 1% in saline when a stronger solution is indicated. The ½% jelly in tubes is convenient for patients to carry.

SUPPLIED as ¼% and 1% in isotonic salt solution, and as ¼% in isotonic solution of three chlorides (Ringer's), bottles of 1 fl. oz.; ½% jelly in ⅜ oz. collapsible tubes with applicator.

Trial Supply Upon Request

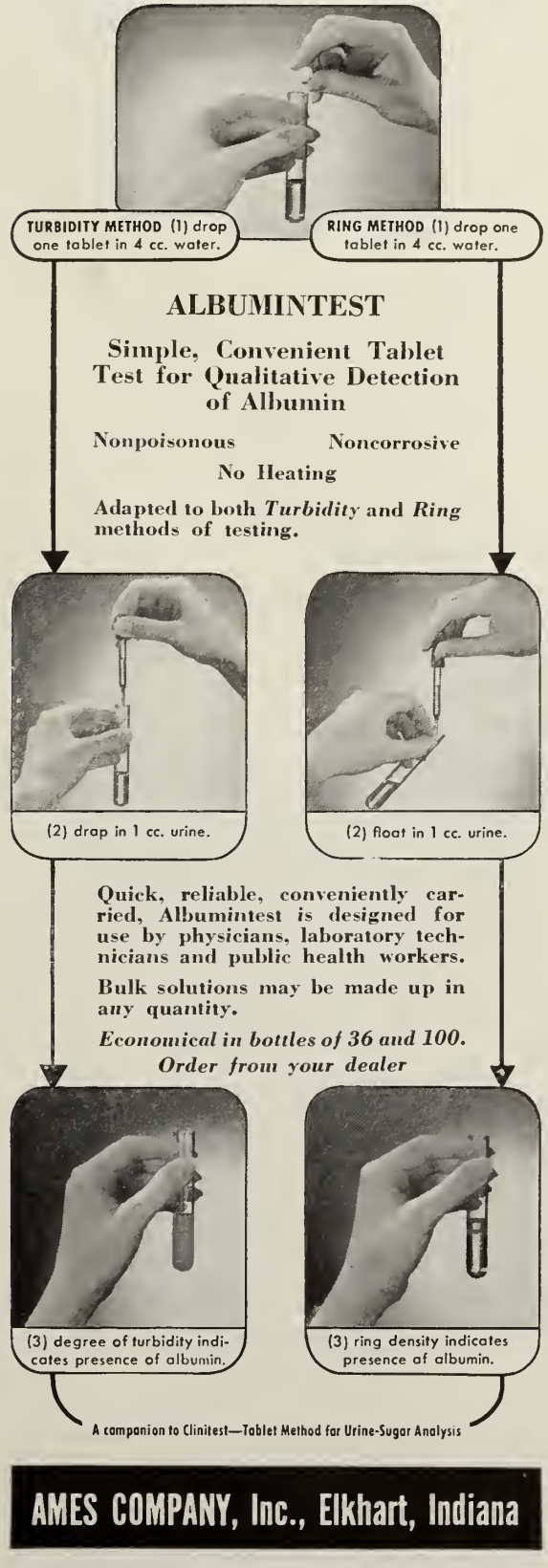
Frederick Stearns & Company
Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Neo-Synephrine*—Reg. U. S. Pat. Off.

Fish, Virgil O., M.D., St. Louis.
FitzGerald, Leo P., M.D., St. Louis.
Fleishman, Alfred, M.D., St. Louis.
Fletcher, Paul F., M.D., St. Louis.
Flynn, George T., Jr., M.D., St. Louis.
Ford, Lee J., M.D., St. Louis.
Foster, Leon, M.D., St. Louis.
Frankel, Sol I., M.D., St. Louis.
Franklin, Max S., M.D., St. Louis.
Freedman, Harold, M.D., St. Louis.
Freimuth, L. E., M.D., St. Louis.
Freund, Samuel J., M.D., St. Louis.
Friedewald, Vincent E., M.D., St. Louis.
Furlow, Leonard T., M.D., St. Louis.
Gaines, Quenton, M.D., Kirkwood.
Gay, Lee Pettit, M.D., St. Louis.
Glasscock, James R., M.D., St. Louis.
Goldwasser, Herbert V., M.D., St. Louis.
Gottlieb, Leo, M.D., St. Louis.
Graham, John G., M.D., St. Louis.
Graul, Elmer G., M.D., St. Louis.
Gray, William H., M.D., Yakima, Wash.
Greene, M. L., M.D., St. Louis.
Guccione, Joseph B., M.D., St. Louis.
Gulick, Charles R., M.D., St. Louis.
Gunn, Walter T., M.D., St. Louis.
Hall, Lee A., M.D., St. Louis.
Hall, Robert A., M.D., St. Louis.
Hamilton, Caldwell K., M.D., St. Louis.
Hamilton, Eugene G., M.D., St. Louis.
Hamlett, Wm. H., M.D., St. Louis.
Hampton, Oscar P., M.D., St. Louis.
Hampton, Stanley P., M.D., St. Louis.
Hanlon, T. J., M.D., St. Louis.
Hanser, S. Albert, M.D., St. Louis.
Harbison, Samuel P., M.D., Sewickley, Pa.
Hardy, Guerdan, M.D., St. Louis.
Hartnett, Dalton C., M.D., St. Louis.
Hartnett, Leo J., M.D., St. Louis.
Hartwig, John A., M.D., St. Louis.
Hawker, Wm. D., M.D., St. Louis.
Hennelly, John J., M.D., St. Louis.
Hermann, Morris, M.D., St. Louis.
Higgins, C. K., M.D., St. Louis.
Hollo, Vencel W., M.D., St. Louis.
Horwitz, Irwin B., M.D., St. Louis.
Hummel, Anton J., M.D., St. Louis.
Jacobi, Franklin E., M.D., St. Louis.
Jesgar, William, M.D., St. Louis.
Jensen, J. Ernst, M.D., St. Louis.
Johnson, Mitchell, M.D., Ferguson, Mo.
Jordan, Edward J., M.D., St. Louis.
Jost, Charles A., M.D., St. Louis.
Jostes, Frederick A., M.D., St. Louis.
Kaplan, Albert, M.D., St. Louis.
Karl, Michael M., M.D., St. Louis.
Keffler, Karl L., M.D., St. Louis.
Keller, Louis, M.D., St. Louis.
Keller, Robert M., M.D., St. Louis.
Kelly, R. Emmet, M.D., St. Louis.
Kelly, Robert W., M.D., St. Louis.
Kirtz, Louis, M.D., St. Louis.
Kirstein, Melvin B., M.D., St. Louis.
Klein, Andrew G., M.D., St. Louis.
Klein, Bert H., M.D., St. Louis.
Knight, Wm. A., Jr., M.D., St. Louis.
Kohler, Louis H., M.D., St. Louis.
Krebs, Joseph M., M.D., St. Louis.
Larsen, Kenneth V., M.D., St. Louis.
Lattuada, Henry P., M.D., Danville, Ill.
Littman, Lewis E., M.D., St. Louis.
Lohr, Curtis H., M.D., St. Louis.
Londe, Sol, M.D., St. Louis.
LoPicolo, V. J., M.D., Richmond Heights.
Luedde, Fullerton W., M.D., St. Louis.
Luedde, Philip S., M.D., St. Louis.
Lyman, Edward H., M.D., St. Louis.



Cook County Graduate School of Medicine
(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting July 29, August 26, and every four weeks thereafter.
Four Weeks Course in General Surgery starting July 15, August 12, September 9.
One Week Surgery Colon and Rectum starting September 16.
One Week Course in Thoracic Surgery starting September 23.

GYNECOLOGY—Two Weeks Intensive Course starting October 21.
One Week Personal Course in Vaginal Approach to Pelvic Surgery starting September 16.

OBSTETRICS—Two Weeks Intensive Course starting October 7.

MEDICINE—Two Weeks Intensive Course starting June 17 and September 23.

ELECTROCARDIOGRAPHY & HEART DISEASE—Two Weeks Intensive Course starting August 5.

GASTROSCOPY & GASTROENTEROLOGY—Two Weeks Personal Course October 7.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting June 17.

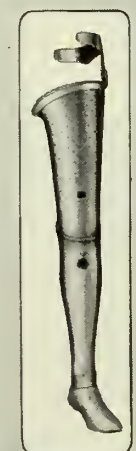
General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties.

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

HANGER

INVENTORS and MANUFACTURERS of



ENGLISH WILLOW and DURAL LIGHT METAL LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.

1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088

Macnish, James M., M.D., St. Louis.
Malles, Conrad, M.D., St. Louis.
Mantz, Harry E., M.D., St. Louis.
Martin, Charles E., M.D., St. Louis.
McAdam, Charles R., M.D., St. Louis.
McGinnins, Byron J., M.D., St. Louis.
McGuire, Wm. A., M.D., St. Louis.
Marmor, William, M.D., St. Louis.
Mattis, Robert D., M.D., St. Louis.
Max, Paul, M.D., St. Louis.
Max, Paul F., M.D., St. Louis.
Meador, J. R., M.D., Clayton.
Mellies, Chester J., Clayton.
Merenda, Sam J., M.D., St. Louis.
Merz, Jean J., M.D., St. Louis.
Michael, Vernon E., M.D., St. Louis.
Middleman, Isadore C., M.D., St. Louis.
Mistachkin, Norman L., M.D., St. Louis.
Mowrey, William O., M.D., St. Louis.
Mueller, Clarence E., M.D., St. Louis.
Mulligan, Leo, M.D., St. Louis.
Murphy, James P., M.D., St. Louis.
Murphy, Joseph G., M.D., St. Louis.
Myers, Daniel W., M.D., St. Louis.
Nester, Charles A., M.D., St. Louis.
Obermeyer, Charles G., M.D., St. Louis.
O'Neil, Geo. J., M.D., St. Louis.
O'Reilly, Daniel E., M.D., St. Louis.
Pareira, Morton D., M.D., St. Louis.
Parker, George J., M.D., St. Louis.
Patton, John F., M.D., St. Louis.
Pelz, Mort D., M.D., St. Louis.
Pernoud, F. G., Jr., M.D., St. Louis.
Piekarski, Anthony A., M.D., St. Louis.
Poe, John S., M.D., New York.
Post, Cyril A., M.D., St. Louis.
Potashnick, Robert, M.D., St. Louis.
Powers, Pierce W., M.D., St. Louis.
Pruett, Burchard S., M.D., St. Louis.
Quirin, Warren S., M.D., St. Louis.
Raines, Oney C., Jr., M.D., Gulfport, Miss.
Ready, James H., M.D., Clayton.
Reh, Edward P., M.D., St. Louis.
Reich, Harry A., M.D., St. Louis.
Richman, Elmer, M.D., St. Louis.
Ries, Douglas A., M.D., St. Louis.
Roche, Maurice B., M.D., St. Louis.
Rosenfeld, Henry, M.D., St. Louis.
Rosenbaum, Harry D., M.D., St. Louis.
Rosenthal, Leonard G., M.D., St. Louis.
Rothman, David, M.D., St. Louis.
Rouse, David M., M.D., St. Louis.
Rusk, Howard A., M.D., New York City.
Sanders, Robert D., M.D., St. Louis.
Sargent, Emanuel N., M.D., St. Louis.
Satterfield, Val B., M.D., St. Louis.
Scherman, Victor E., M.D., St. Louis.
Schiemeier, Roy H., M.D., St. Louis.
Schluer, Elmer P., M.D., St. Louis.
Schuck, Carl A., M.D., Hamilton, Ohio.
Schulein, Vernon E., M.D., St. Louis.
Schumacher, Cyril W., M.D., St. Louis.
Schwartz, Henry G., M.D., St. Louis.
Scott, Wendell G., M.D., St. Louis.
Senturia, Ben D., M.D., St. Louis.
Senturia, B. H., M.D., St. Louis.
Senturia, Hyman R., M.D., St. Louis.
Simon, Jerome I., M.D., St. Louis.
Smith, Hugh R., M.D., St. Louis.
Steubner, Roland W., M.D., St. Louis.
Stevens, Lawrence H., M.D., St. Louis.
Stewart, John W., M.D., St. Louis.
Stindel, C. E., M.D., St. Louis.
Stolar, Jacob, M.D., St. Louis.
Strub, Giles J., M.D., St. Louis.
Sullivan, Clement J., M.D., St. Louis.
Susanka, Wm. Dee, M.D., St. Louis.
Tapper, Stephen M., M.D., St. Louis.
Tomlinson, William L., M.D., Fornfelt, Mo.

Tremain, Irl G., M.D., St. Louis.
Trigg, Jos. F., M.D., St. Louis.
Vandover, John T., M.D., St. Louis.
Vaughan, J. Russell, M.D., St. Louis.
Virant, John A., M.D., Ladue.
Vitt, Edwin F., M.D., St. Louis.
Walton, Franklin E., M.D., St. Louis.
Warson, S. R., M.D., St. Louis.
Wasserman, Helman C., M.D., St. Louis.
Wedig, John H., M.D., St. Louis.
Weinel, Francis G., M.D., St. Louis.
Weiner, David O., M.D., St. Louis.
Weir, Don C., M.D., St. Louis.
Williamson, W. E., M.D., St. Louis.
Wilucki, Melvin R., M.D., St. Louis.
Wood, Bennett R., M.D., St. Louis.
Wulff, George J. L., Jr., M.D., St. Louis.

LEGISLATION

DOCTOR PREFIX BILL

To prohibit the use by any person licensed to practice medicine, surgery, dentistry, optometry, osteopathy, chiropractic, chiropody, or veterinary surgery, or any two or more of such professions, and any person permitted to practice the curing, healing or remedying of ailments, defects or diseases of body or mind, from using the prefix "Doctor" or "Dr." in connection with his name in any letter, business card, advertisement, prescription blank, sign or public listing or display without affixing thereto suitable words or letters designating the degree held by such person or the particular type of practice in which such persons is engaged which designation shall represent the profession such person is legally authorized to practice, making violation of the Act a misdemeanor and fixing the punishment threfor, and providing that the Act shall not apply to the use of said prefix by doctors of letters, doctors of science, doctors of law, doctors of divinity, or doctors of philosophy not practicing the curing, healing or remedying of bodily or mental ailments, defects or diseases.

Section 1. No person now or hereafter licensed in this state to practice medicine, surgery, dentistry, optometry, osteopathy, chiropractice, chiropody, or veterinary surgery, or any two or more of such professions, and no persons specifically permitted by law to practice the curing, healing or remedying of ailments, defects or diseases of body or mind with or without a license, shall use the prefix "Doctor" or "Dr." in connection with his name in any letter, business card, advertisement, prescription blank, sign or public listing or display of any nature whatsoever, without affixing thereto suitable words or letters clearly designating the degree held by such person or the particular type of practice in which such person is engaged which designation shall represent the profession such person is authorized to practice by license or privilege under the laws of this state.

Section 2. Nothing contained in this Act shall prohibit the use of such prefix by any person holding the degree of doctors of letters, doctor of science, doctor of law, doctor of divinity, or doctor of philosophy, provided such person does not practice the curing, healing, or remedying of ailments, defects or diseases of body or mind.

Section 3. Any person who shall violate the provisions of this Act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by fine of not more than five hundred dollars ($500.00) or imprisonment in the county jail for not more than six months, or by both such fine and imprisonment. Each day upon which this Act shall be violated shall be and constitute a separate offense and shall be punishable in like manner with each other offense.

Advertisement



From where I sit
by Joe Marsh

Our Town has a Housing Shortage

Yes, sir, there's a real housing shortage in our town, as I guess there is in yours, too.

Keefer Cole, for instance, is sharing his home with a brother-in-law from Connecticut. Six children and a dog in one family; four children and three cats in the other.

Dr. Hollister asked Keefer how the two families got along together—especially the grown-ups. Didn't they sometimes get a little edgy from all the noise and crowding?

Keefer looks at him with a twinkle. "Sure," he says. "And when that happens, Sara and I just pass around four sparkling glasses of good beer . . . and that reminds everybody that there are still a lot of friendly, gracious pleasures that can help us make the best of things."

From where I sit, it's great to be able to relax during this strain of postwar living with a beverage that's truly moderate and wholesome, truly friendly.

Joe Marsh

Copyright, 1946, United States Brewers Foundation

S·I·M·I·L·A·C



Similar to human milk

★The name is never abbreviated; and the product is not like any other infant food—notwithstanding a confusing similarity of names.

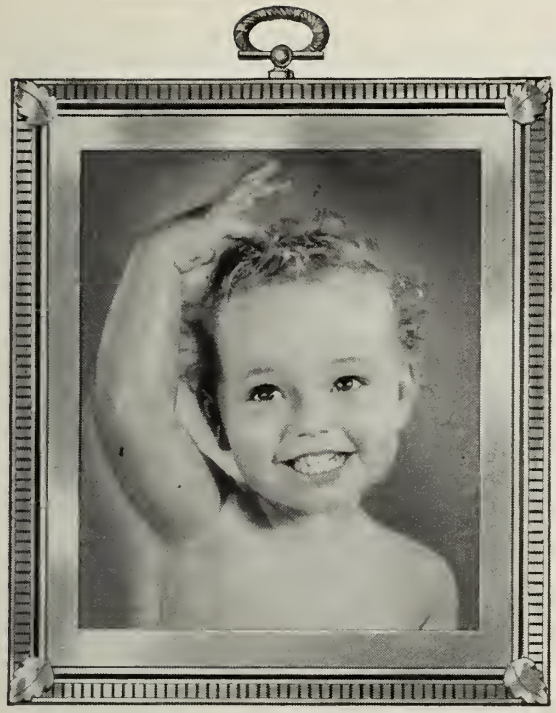
The fat of Similac has a physical and chemical composition that permits a fat retention comparable to that of breast milk fat (Holt, Tidwell & Kirk, Acta Pediatrica, Vol. XVI, 1933) . . . In Similac the proteins are rendered soluble to a point approximating the soluble proteins in human milk . . . Similac, like breast milk, has a consistently ZERO curd tension . . . The salt balance of Similac is strikingly like that of human milk (C. W. Martin, M. D., New York State Journal of Medicine, Sept. 1, 1932). *No other substitute resembles breast milk in all of these respects.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED EVAPORATED MILK
ACCEPTED AMERICAN MEDICAL ASSN Council on Foods and Nutrition

Protecting your Treatment



UNCERTAIN SUCCESS in the treatment of pernicious anemia is due to many unpredictable factors.

One element of certainty is added to your treatment when the Solution of Liver prescribed never varies from rigid standards.

Purified Solution of Liver, Smith-Dorsey, is unfailingly uniform in purity and potency. It has earned and maintained the confidence of thousands of physicians.

Purified Solution of Liver, Smith-Dorsey, will help to protect your treatment—to assure you of good results where the medication is the controlling factor.

PURIFIED SOLUTION OF *Liver*

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

SMITH-DORSEY

Supplied in the following dosage forms: 1 cc. ampoules and 10 cc. and 30 cc. ampoule vials, each containing 10 U.S.P. Injectable Units per cc.

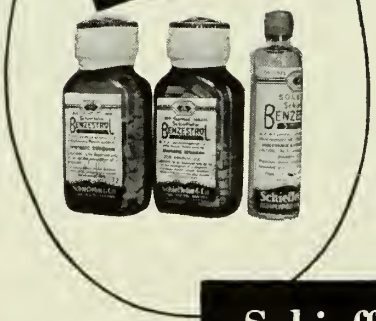
THE SMITH-DORSEY COMPANY

LINCOLN • NEBRASKA

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

Prompt Estrogenic Action

Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl) - 3-ethyl hexane)



Menopausal symptoms and other conditions involving an estrogenic deficiency have been found to respond rapidly and favorably to this synthetic estrogen.

Schieffelin BENZESTROL, a non-stilbene compound, is a preparation of high estrogenic activity and has proved to be desirable because of its low incidence of untoward side effects.

Schieffelin BENZESTROL is available in tablets of 0.5, 1.0, 2.0 and 5.0 mg., in solution, in 10 cc. vials, 5.0 mg. per cc., and vaginal tablets of 0.5 mg. strength.

Literature and Sample on Request

Schieffelin & Co. 20 COOPER SQUARE • NEW YORK 3, N. Y.
Pharmaceutical and Research Labaratories

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

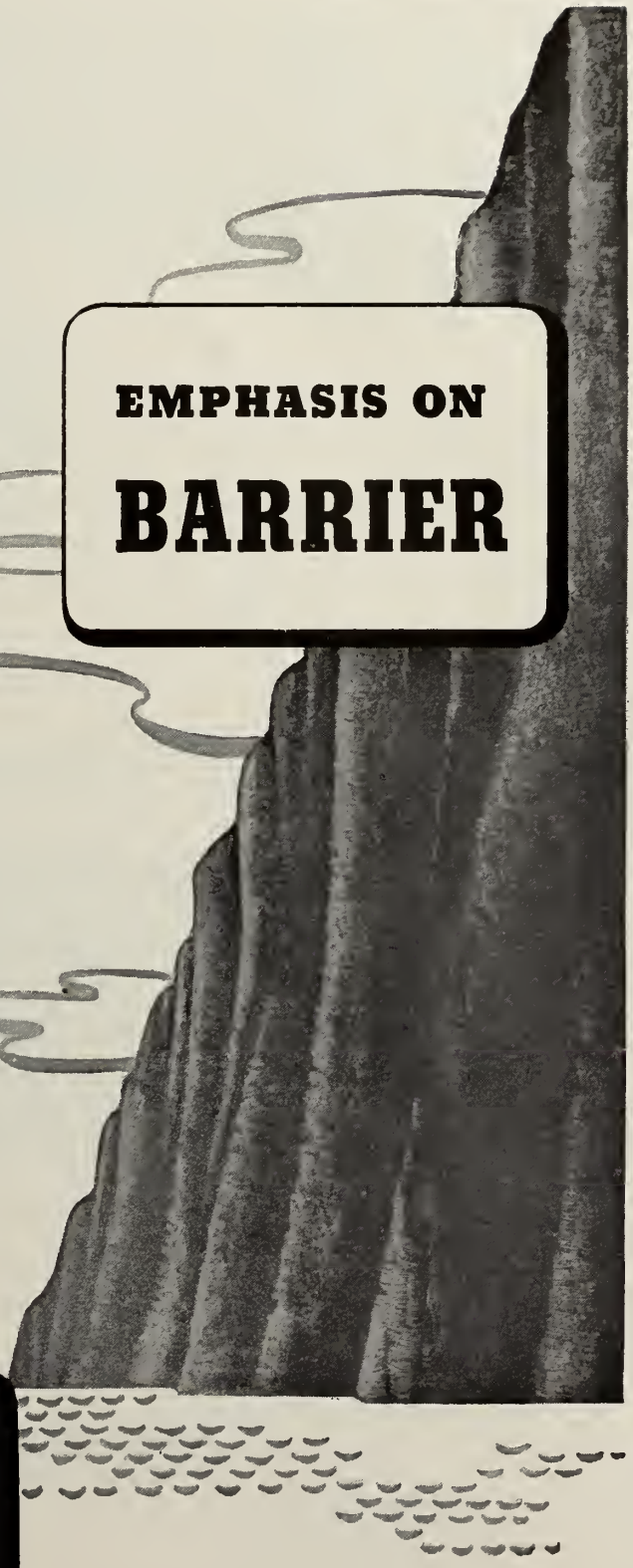
• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

AUTHORITATIVE clinical investigators place strong emphasis on the importance of the barrier in conception control.

In a recent comprehensive report,[1] physicians indicated an overwhelming preference for the diaphragm and jelly method (93% of 36,955 new cases).

In keeping with these expressed opinions we continue to suggest that for the optimum in protection the physician prescribe the combined use of occlusive diaphragm and spermatocidal jelly.

You assure your patient a product of highest quality when you specify Ramses



Competent observers report:

"Jellies and creams used without mechanical devices yield relatively high protection, but studies have not proven them fully dependable to block the external os, or to invalidate all sperm."[2]

"When no type of occlusive pessary can be fitted, or when the woman refuses to use one, the only other reliable method is the use of the condom. With proper technic and instruction this method is highly reliable but has many disadvantages which the diaphragm method overcomes."[3]

1. Clinic Reports: Planned Parenthood Services in the United States. Human Fertility 10: 25 (Mar.) 1945.
2. Dickinson, R.L.: Techniques of Conception Control. Baltimore, Williams and Wilkins Co., 1942.
3. Warner, M.P.: J.A.M.A. 115: 279 (July 27) 1940.

A MARK OF Ramses DEPENDABILITY

gynecological division

JULIUS SCHMID, INC.

423 West 55 Street • New York 19, N. Y.

QUALITY FIRST SINCE 1883

Theocalcin

Council Accepted

In Congestive Heart Failure

For the reduction of edema, to diminish dyspnoea and to strengthen heart action, prescribe Theocalcin, beginning with 2 or 3 tablets t. i. d., with meals. After relief is obtained, the comfort of the patient may be continued with smaller doses. Well tolerated.

Theocalcin, brand of theobromine-calcium salicylate, Trade Mark reg. U. S. Pat. Off.

Available in 7½ grain tablets and in powder form.

Bilhuber-Knoll Corp. Orange, N. J.



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.



In Obstetrics and Gynecology

"Proluton has a definite place in the conservative practice of obstetrics and gynecology."[1]

Habitual and Threatened Abortion due to corpus luteum hormone deficiency may be prevented in the majority of women. *Functional Uterine Bleeding* associated with hyperplastic endometrium responds with cessation of hemorrhage, and not infrequently normal menstrual cycles are maintained thereafter. *Secondary Amenorrhea* is correctible by cyclic administration of PROLUTON, and in about one-third of patients regular menses will follow for many months. Dysmenorrhea and premenstrual tension can usually be relieved, especially if corpus luteum hormone is inadequate.

PROLUTON

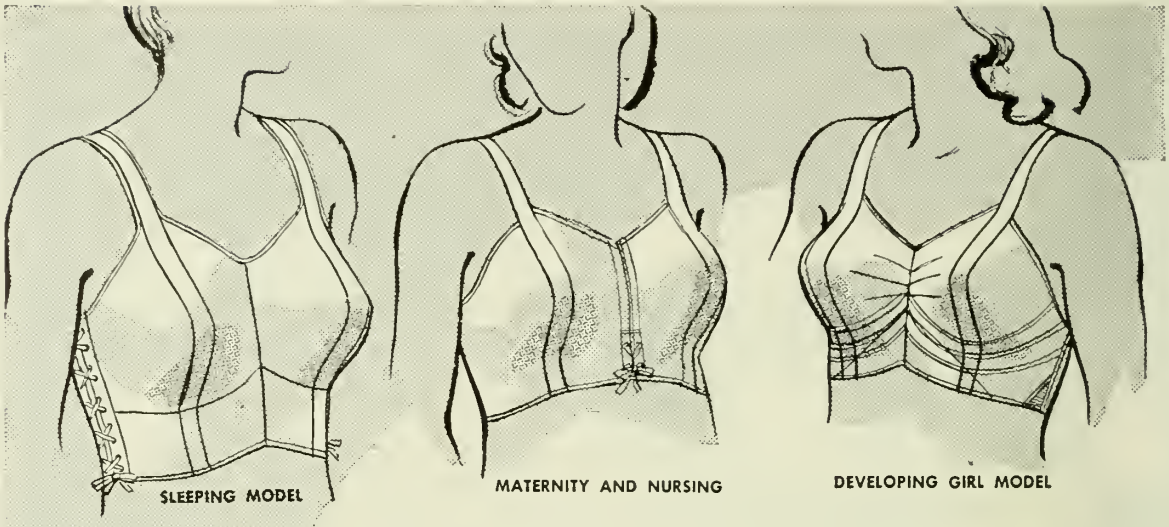
PROLUTON, pure progesterone in oil for intramuscular injection, available in 1, 2, 5 and 10 mg. strengths. PRANONE Tablets, anhydrohydroxyprogesterone. orally effective progestin, may be substituted if tablet administration is indicated. Available in 5 and 10 mg. tablets.

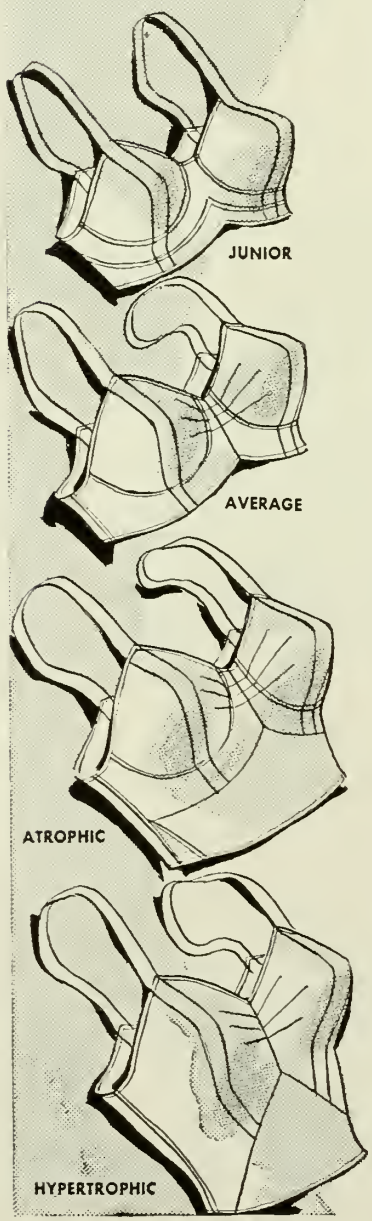
Trade-Marks PROLUTON and PRANONE—Reg. U. S. Pat. Off.

1. Feiman, D. T.: Ohio State M. J. 35:288, 1939.

SCHERING

Schering CORPORATION · BLOOMFIELD · N. J.
In Canada, Schering Corporation Limited, Montreal





Lov-é **CORRECTIVE** *Brassieres*

IN MORE THAN 500 SIZE VARIATIONS

CUSTOM-FITTED TO THE INDIVIDUAL IN EXACT ACCORDANCE WITH THE PHYSICIAN'S INSTRUCTIONS, THESE SUPPORTS ARE THE MOST HIGHLY SPECIALIZED AVAILABLE AND A DEFINITE AID TO TREATMENT.

SPECIAL MODELS PROVIDE HYGENIC REMEDIAL SUPPORT FOR SPECIFIC BREAST CONDITIONS. ALSO AVAILABLE: AMPUTATION MODELS, ARTIFICIAL BREASTS, MUSCLE PADS, HOSPITAL BINDERS, MATERNITY GARTER SUPPORTS.

ALL LOV-E' PRODUCTS ARE EXPERTLY FITTED BY COMPANY-TRAINED LOV-E' BRASSIERE TECHNICIANS. LOV-E' MODELS HAVE BEEN DEVELOPED DURING 14 YEARS OF MEETING THE REQUIREMENTS OF THE MEDICAL PROFESSION. MADE BY LOV-E' BRASSIERE COMPANY, HOLLYWOOD, CALIFORNIA.

LOV-E SECTION CORSET DEPARTMENT

FAMOUS-BARR CO., ST. LOUIS

Experience
has no substitute

In
Professional Protection
as in everything else
"knowing" comes from "doing"

With
the successful handling
of more than 60,000 malpractice claims
The Medical Protective Company
brings to its policyholders
Experience
which has no substitute

★

OUR DIRECTORS
have been actively and exclusively engaged in the administration of this protective service for the professions since the years indicated.

B. H. Somers, Pres.—1903

J. W. Brown	1922	G. R. Kirkup	1913
L. M. Ford	1923	F. E. McLucas	1918
L. L. Frank	1910	Dr. W. E. Neuenschwander	1928
H. W. Ginty	1911	B. H. Smith	1923
T. E. Haberkorn	1922	F. G. Somers	1928

THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

MISCELLANEOUS ANNOUNCEMENTS

WANTED: Doctor for railway examination car. Trip over road requires 2½ to 3 months. Good salary and expenses. Address Box No. 148, Missouri State Medical Association, 623 Missouri Theatre Bldg., 634 N. Grand, St. Louis 3, Mo.

FOR SALE: Drug Store. Good business. No better farming country. Eighty-one years of age and in failing health. Address Box No. 149, Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our **ALCOHOLIC** treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.

Formulac

—vitamin-and-mineral-

fortified baby food



FORMULAC is a new baby food—
a reduced milk in liquid
form—fortified with sufficient vitamins and minerals
to meet the nutritional needs of
infants *without supplementary administration.*

FORMULAC was developed by
E. V. McCollum, whose method
of incorporating the vitamins
and minerals *into the milk itself* lessens the risk
of human oversight or error.

FORMULAC is promoted ethically.
Clinical testing has proved
it satisfactory in promoting infant
growth and development.

FORMULAC is easily adjusted to meet each
individual child's nutritional needs, by the addition
of carbohydrates at your discretion.

FORMULAC—on sale at most grocery and drug stores
—is priced within range of even low income groups.



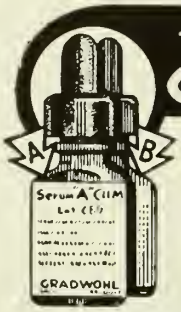
• For professional samples and further infarmatian abaut this new infant faad, mail a card ta Natianal Dairy Products Company, Inc., 230 Park Ave., New Yark 17, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN Council on Foods and Nutrition

DISTRIBUTED BY KRAFT FOODS COMPANY

NATIONAL DAIRY PRODUCTS COMPANY, INC.

New York, N. Y.



STERILE HIGH TITER

GROUP SERA

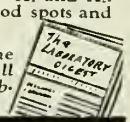
For ACCURATE CLASSIFICATION

Improper classification, due to weak reacting testing sera or failure to differentiate A1 from A2 bloods may cause serious trouble—even fatalities.

Our Grouping Sera are certified for HIGH TITER. Exclusively prepared under the personal supervision of Dr. R. B. H. Gradwohl for safe, efficient, *accurate* laboratory technique. We invite your inquiries.

Serum "A" (II, Moss), and Serum "B" (III Moss) represent carefully controlled experimental work to furnish the profession *carefully tested and titrated* grouping sera. Clinically reliable . . . worthy of your confidence. Anti-Rh serum to test for Rh. Absorbed B serum to differentiate between A_1 and A_2. Anti-M and Anti-N sera for blood spots and paternity work.

Write for a sample copy of The Gradwohl Laboratory Digest full of helpful hints on improved laboratory technique.



GRADWOHL
LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death — $25.00 weekly indemnity, accident and sickness	**$ 8.00** quarterly
$10,000.00 accidental death — $50.00 weekly indemnity, accident and sickness	**$16.00** quarterly
$15,000.00 accidental death — $75.00 weekly indemnity, accident and sickness	**$24.00** quarterly

86c out of each $1.00 gross income used for members' benefit

$2,800,000.00 INVESTED ASSETS — **$13,000,000.00 PAID FOR CLAIMS**

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA



North Shore Health Resort

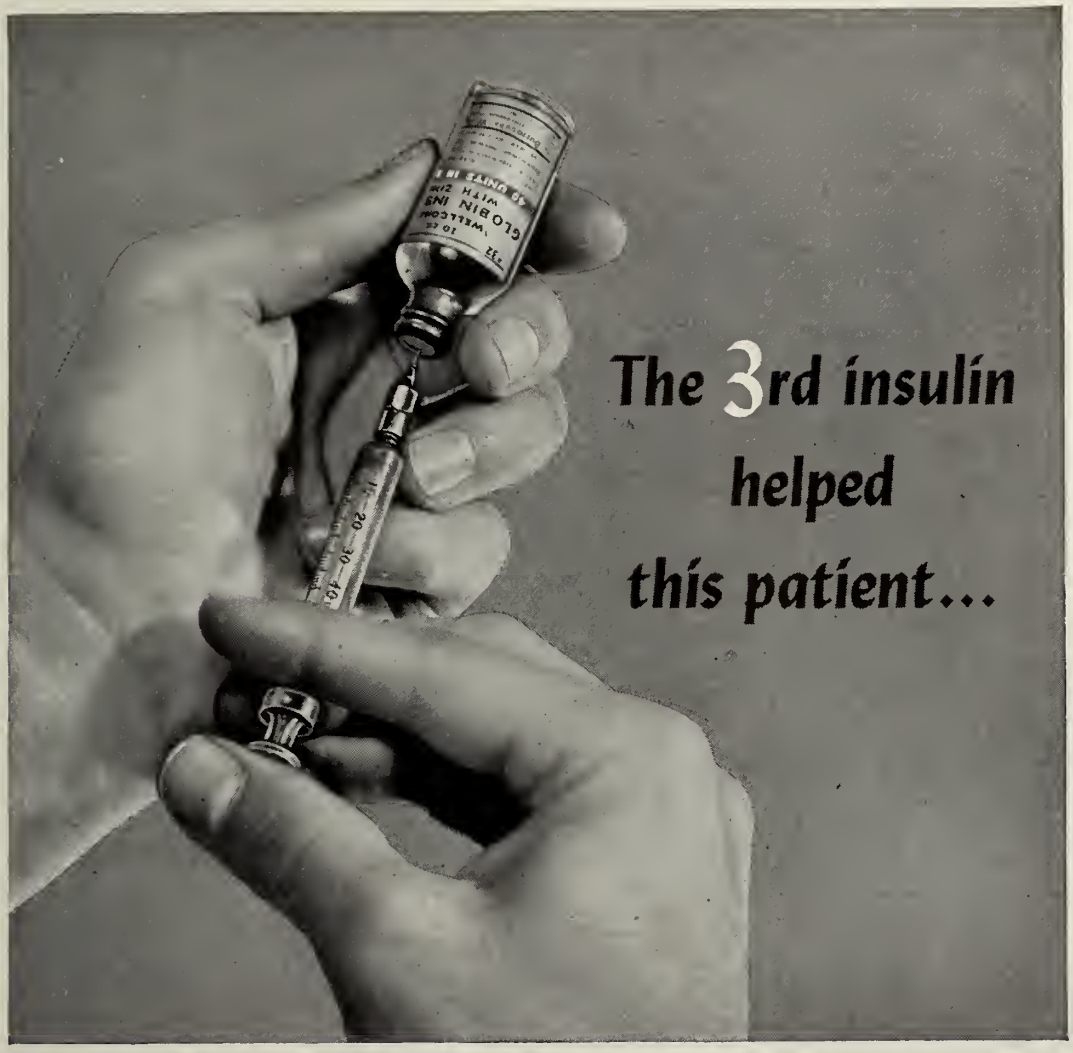
Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road — *Medical Director* — **Phone Winnetka 211**



TODAY, the physician treating diabetics, has the choice of three types of insulin. One insulin is rapid-acting but short-lived. Another is slow-acting but prolonged. Between them is the new 'Wellcome' Globin Insulin with Zinc, moderately prompt in starting, yet capable of sustained effect *for sixteen or more hours.* Such intermediate action is sufficient to cover the periods of maximum carbohydrate intake, and diminished enough by nighttime to minimize the likelihood of nocturnal reactions. Physicians do well to consider all *three* insulins when treating their diabetic patients.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its freedom from allergenic properties.

Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in the Wellcome Research Laboratories, Tuckahoe, New York. U.S. Patent No. 2,161,198.

Available in vials of 10 cc., 80 units in 1 cc., and vials of 10 cc., 40 units in 1 cc. Literature on request. *'Wellcome' Trademark Registered.*

'WELLCOME'
Globin Insulin
WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

PRESCRIBE OR DISPENSE
ZEMMER PHARMACEUTICALS
A complete line of laboratory controlled ethical pharmaceuticals. Mo. 6-46
Chemists to the Medical Profession for 44 years.
THE ZEMMER COMPANY • Oakland Station • Pittsburgh 13, Pa.

Zemmer

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois



COSMETIC *HAY FEVER?*
Prescribe UNSCENTED AR-EX Cosmetics
Recent clinical tests showed many cases of cosmetic sensitivity, but not a single one to UNSCENTED AR-EX Cosmetics. For allergic patients, prescribe UNSCENTED AR-EX Cosmetics—free from all known irritants and allergens. SEND FOR FREE FORMULARY.



AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

FREE FORMULARY
DR._____
ADDRESS_____
CITY_____
STATE_____



THE WALLACE SANITARIUM

Memphis, Tennessee

•

S. N. Brinson, M.D.
Medical Director

•

Walter R. Wallace
Business Manager

The Sanitarium is especially equipped for the treatment of drug addiction, alcoholism, nervous and mental disorders, the care of patients requiring metrazol and insulin therapy, and is ideal for convalescents.



In the severe depressions of the menopause marked by apathy and psychomotor retardation

Many women in the climacteric period develop a true reactive depression, characterized by apathy, psychomotor retardation and despondency.

• This depressive syndrome is frequently progressive; and, unless promptly and effectively treated, may seriously impair the patient's normal capacity for useful living.

• In such cases, Benzedrine Sulfate helps to reawaken mental alertness and optimism, and to restore the savor and zest of life—especially when administered in conjunction with such fundamental measures as electric shock and estrogenic therapy.

• Obviously, Benzedrine Sulfate should not be used for the casual case of low spirits or normal physiologic depression, as distinguished from true prolonged mental depression. Smith, Kline & French Laboratories, Philadelphia, Pa.

BENZEDRINE SULFATE

Tablets *Elixir*

(RACEMIC AMPHETAMINE SULFATE, S. K. F.)

THE
W. E. ISLE CO.
1121 GRAND AVE.
KANSAS CITY, MO.



TRUSSES
...Accurately fitted to assure complete protection and greatest possible comfort

ENTIRE SECOND FLOOR TELEPHONE VICTOR 2350

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5165 Delmar, St. Louis Forest 1913

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

INDEX TO ADVERTISERS

Abbott Laboratories 375
Ames Company, The 409
Ar-Ex Cosmetics, Inc. 424
Ayerst, McKenna & Harrison, Ltd. 398

Bilhuber-Knoll Corp. 416
Borden Company, The 427
Burroughs Wellcome & Co. 374, 423

Camel Cigarettes 373
Camp, S. H. & Co. 392
Ciba Pharmaceutical Products, Inc. .....Insert
Cook County Graduate School of Medicine..... 410

Faith Hospital 426

Glenwood Sanatorium 416
Gradwohl School of Laboratory Technique..... 422

Hamilton-Schmidt Surgical Co. 424
Hanger, J. E., Inc. 410

Isle, W. E., Co. 426

Lilly, Eli & Co. 380
Lilly, Eli & Co. .....Insert
Lov-E Brassiere Co. 418

M & R Dietetic Laboratories, Inc. 412
Major Clinic Association 369
Mead Johnson & Co. 428
Medical Protective Co., The 419
Milwaukee Sanitarium 404
Miscellaneous Announcements 420
Mosby, C. V., Co. 406
Mullen Ambulance Co. 426

National Dairy Products Corp. 421
National Pathological Laboratory 420
Nestle's Milk Products 390
Norbury Sanatorium 414
North Shore Health Resort..... 422

Parke, Davis & Co. 366, 367
Philip Morris & Co. 379
Physicians Casualty Association 422
Producers Creamery Co. 413

Quincy X-ray & Radium Laboratories..... 424

Ralph Sanitarium 420
Robinson Clinic 426

Schenley Laboratories 371
Schering Corp. 417
Schieffelin & Co. 414
Schmid, Julius, Inc. 415
Searle, G. D. & Co. 389
Smith-Dorsey Co. 413
Smith, Kline & French Laboratories..... 425
Spencer, Inc. 400
Squibb, E. R. & Sons..... 395
Stearns, Frederick & Co. 408
Stokes Sanitarium 420

United-Rexall Drug Co. 377
Upjohn Company 378
U. S. Brewers Foundation 411
U. S. Standard Products 368

Wallace Sanitarium 424
Winthrop Chemical Co. 376
Worrell, Dorothy 420
Wyeth, Inc. 402

Zemmer Company 424



A SAFE *Summer* PRESCRIPTION FOR INFANT NUTRITION

Even under the handicaps of travel or vacation accommodations, a mother can easily prepare a *safe* formula for her infant . . . by just adding cooled boiled water to Biolac according to the physician's directions. The simplicity of preparation (dilution only) minimizes possibilities of formula contamination even under adverse conditions.

In addition to safety and simplicity of preparation, Biolac formulas provide complete nutrition when supplemented with vitamin C. No chance omission of needed vitamins, carbohydrates or iron can occur. Biolac simply and safely affords nutritional elements for optimum health.

Easily calculated . . . quickly prepared. 1 fl. oz. Biolac to 1½ fl. oz. water per pound of body weight.



BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE · · NEW YORK 17, N. Y.

Biolac

"BABY TALK" FOR A GOOD SQUARE MEAL

Biolac is a liquid modified milk, prepared from whole and skim milk, with added lactose, and fortified with vitamin B_1, concentrate of vitamins A and D from cod liver oil, and iron citrate. Evaporated, homogenized, and sterilized. Biolac is available in 13 fl. oz. cans at all drug stores.

ACCEPTED AMERICAN MEDICAL ASSN.

Boston Medical Library
8 Fenway



THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 7

JULY, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Thymus Problem
Poliomyelitis
Reinfection With Syphilis

BOSTON
JUL 9 1946
MEDICAL LIBRARY

EDITORIALS

Physician Wanted
Why Do Doctors Oppose the Wagner-Murray-Dingell Bill?

(Contents Index Page 433)

HIS SMILE





PARKE, DAVIS
& COMPANY

DETROIT 32 • MICHIGAN

BETRAYS
THE SHADOW ON HIS MIND

Behind the smile of the epileptic may be the feeling of insecurity and the dread of his next seizure. DILANTIN SODIUM favorably influences such epileptic psychologic factors and is effective in controlling convulsions. This superior anticonvulsant . . . relatively free from sedative, hypnotic or depressant action . . . provides complete control of seizures in a substantial percentage of cases. In others it lengthens the interval and diminishes effects of the seizures.

Available in Kapseals of 0.03 Gm. (½ gr.) and 0.1 Gm. (1½ gr.).

DILANTIN SODIUM

(DIPHENYLHYDANTOIN SODIUM)

Must

INCREASED IRRITATION

follow

INCREASED SMOKING?

PEOPLE are smoking heavily . . . far more than ever before. To *minimize* nose and throat irritation due to smoking, may we suggest the cigarette *proved** definitely and measurably less irritating . . . PHILIP MORRIS.

This proof of PHILIP MORRIS superiority is dependent *not only* upon laboratory evidence, but on clinical observation as well. Research was conducted *not by anonymous investigators, but by recognized authorities* . . . and published in leading medical journals.

The fact is PHILIP MORRIS advantages result directly from a *distinctive method of manufacture* described in published reports.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp. Biol. and Med., 1934, 32, 241; N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.*



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, N. Y.

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend — COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

CONTENTS

Thymus Problem. David S. Dann, M.D., Kansas City, Mo. 445

Poliomyelitis. Stephen L. Magiera, M.D., St. Louis 446

Reinfection With Syphilis. Charles C. Dennie, M.D., and Lennert B. Mellott, M.D., Kansas City, Mo. .. 450

Abstracts and Digests—

Tuberculosis Abstracts 451

Editorials—

Physician Wanted 455

Why Do Doctors Oppose the Wagner-Murray-Dingell Bill? 455

News Notes 455

Deaths 456

Miscellany—

Additional Physicians Returned From Military Service 456

Cancer Clinics at the Ellis Fischel State Cancer Hospital 456

Naval Air Reserve Needs Doctors for Reserve Training Program 457

Legislation 457

Society Proceedings 459

Minutes of Annual Session 461

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Roger I. Lee, Boston.
President-Elect, Harrison H. Shoulders, Nashville.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgraduate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D. Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1948); R R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren.*

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade,* Howard, *Maries,* Miller, Moniteau, Montgomery, Morgan, *Osage.*

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair,* Saline, Vernon.

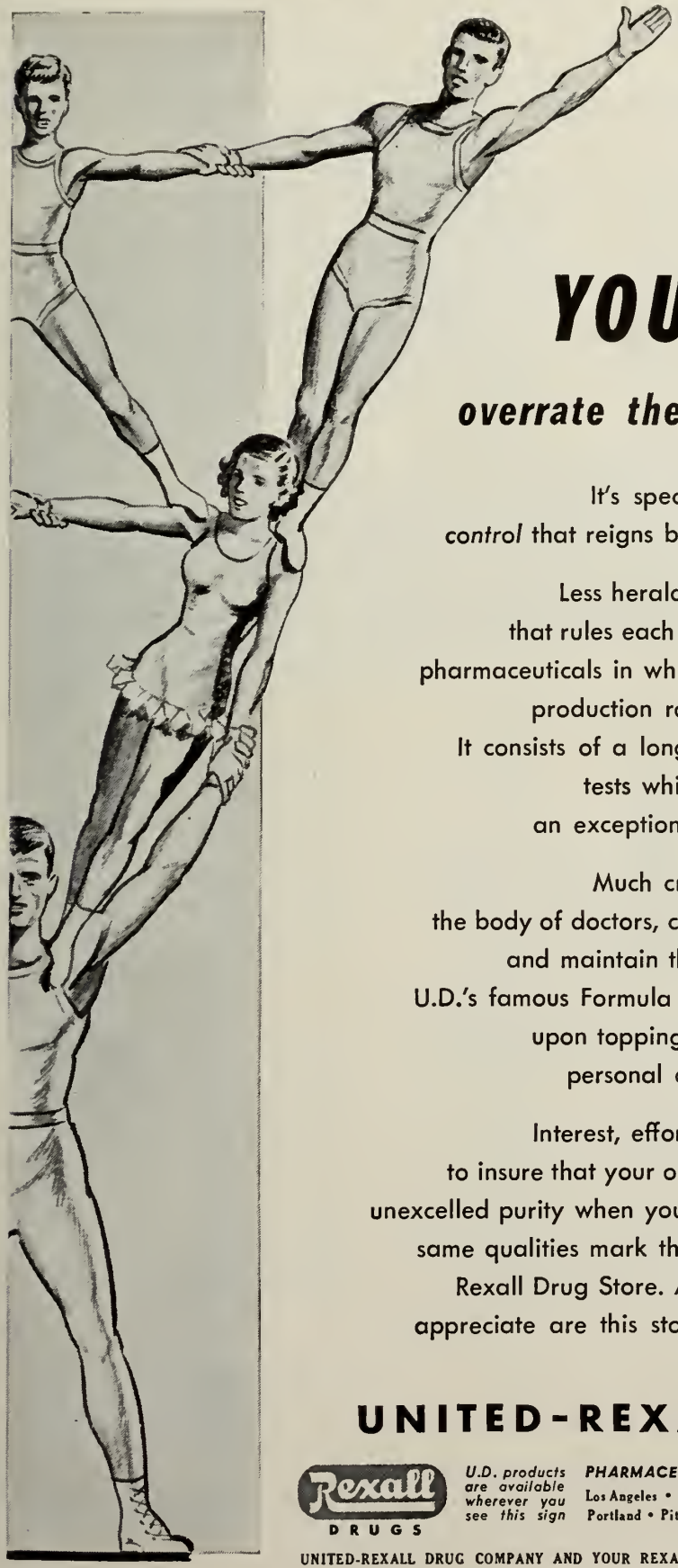
Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade,* Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald,* Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark,* Phelps, Pulaski, *Ripley,* Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger,* Butler, Cape Girardeau, Dunklin, *Iron,* Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne.*

*Counties in italics are not organized.



YOU CAN'T

overrate the value of CONTROL

It's spectacular, but brief—the kind of *control* that reigns beneath the big top each Spring.

Less heralded is the day-in day-out control that rules each operation in the manufacture of pharmaceuticals in white-walled U.D. laboratories and production rooms. For this is *quality control*. It consists of a long-established, efficient system of tests which have won for these products an exceptional record for consistent quality.

Much credit for these fine results is due the body of doctors, chemists and pharmacists who set and maintain the high standards. This group is U.D.'s famous Formula Control Committee which insists upon topping all previous precautions with a personal check of every finished formula.

Interest, effort, care and experience combine to insure that your orders are filled with materials of unexcelled purity when you specify U.D. preparations. The same qualities mark the service of your neighborhood Rexall Drug Store. Additional features that patients appreciate are this store's convenience and economy.

UNITED-REXALL DRUG CO.

Rexall DRUGS

U.D. products are available wherever you see this sign

PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

Los Angeles • Boston • St. Louis • Chicago • Atlanta • San Francisco
Portland • Pittsburgh • Ft. Worth • Nottingham • Toronto • So. Africa

UNITED-REXALL DRUG COMPANY AND YOUR REXALL DRUGGIST • *Your Partners in Health Service*

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5			Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto		
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	Samuel M. Sarno	Morehouse	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Fairfax	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield





Florida State Board of Health findings[1] of rickets in well over 50% of 2,000 school children substantiate California reports[2] on the antirachitic unreliability of sunshine. Logic suggests supplemental vitamins the year 'round, as long as growth persists. Upjohn vitamins provide a steadfast source of potent, natural vitamin D in convenient, well tolerated form.

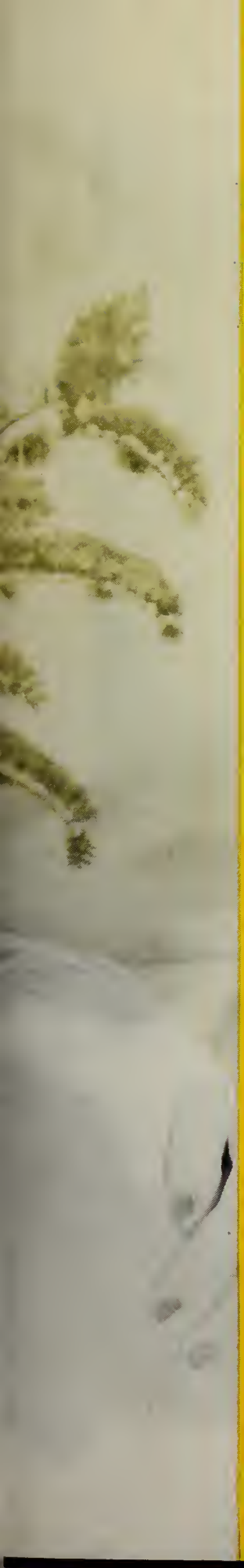
1. Florida Health Notes 37, May, 1945.
2. Am. J. Dis. Child. 54:1227, 1937.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS





Three drops of PRIVINE... and welcome relief!



Hay fever sufferers are finding prolonged symptomatic relief with minimal dosage—only three drops—of Privine, Ciba's potent vasoconstrictor.

Privine Hydrochloride acts quickly on the nasal mucosa without retarding ciliary activity. The solution is buffered to a pH of 6.2, closely simulating normal nasal secretions.

Physicians will find that by advising their patients to use no more than the recommended three drops in each nostril, no oftener than three times daily, gratifying and prolonged relief will be experienced.

PRIVINE is available in two solutions, 0.1 per cent and 0.05 per cent, packaged in 1-ounce bottle with dropper designed to dispense but three drops —the recommended dose. Also available in bottles of 16 fluid ounces.

PRIVINE NASAL JELLY—Tubes of ⅝ oz., containing 0.05% Privine Hydrochloride.

Privine — *Trade Mark Registered in U. S. Pat. Off. Brand of Naphazolene Hydrochloride*

CIBA

Privine is Council Accepted.

CIBA PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

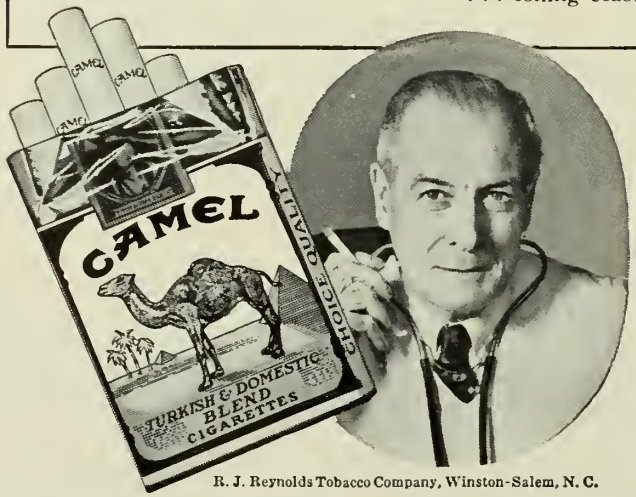
In Canada: Ciba Company Limited, Montreal



"I'm going to grow a hundred years old!"

. . . and possibly she may— for the amazing strides of medical science have added years to life expectancy

● It's a fact—a warm, wonderful fact—that this five-year-old child, or your own child, has a life expectancy almost a whole decade longer than was her mother's, and a good 18 to 20 years longer than that of her grandmother. Not only the expectation of a longer life, but of a life by far healthier. Thank medical science for that. Thank your doctor and thousands like him . . . toiling ceaselessly . . . that you may enjoy a better life.



R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

According to a recent independent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

Doubting Thomas...

and Richard...

and William...

and James...







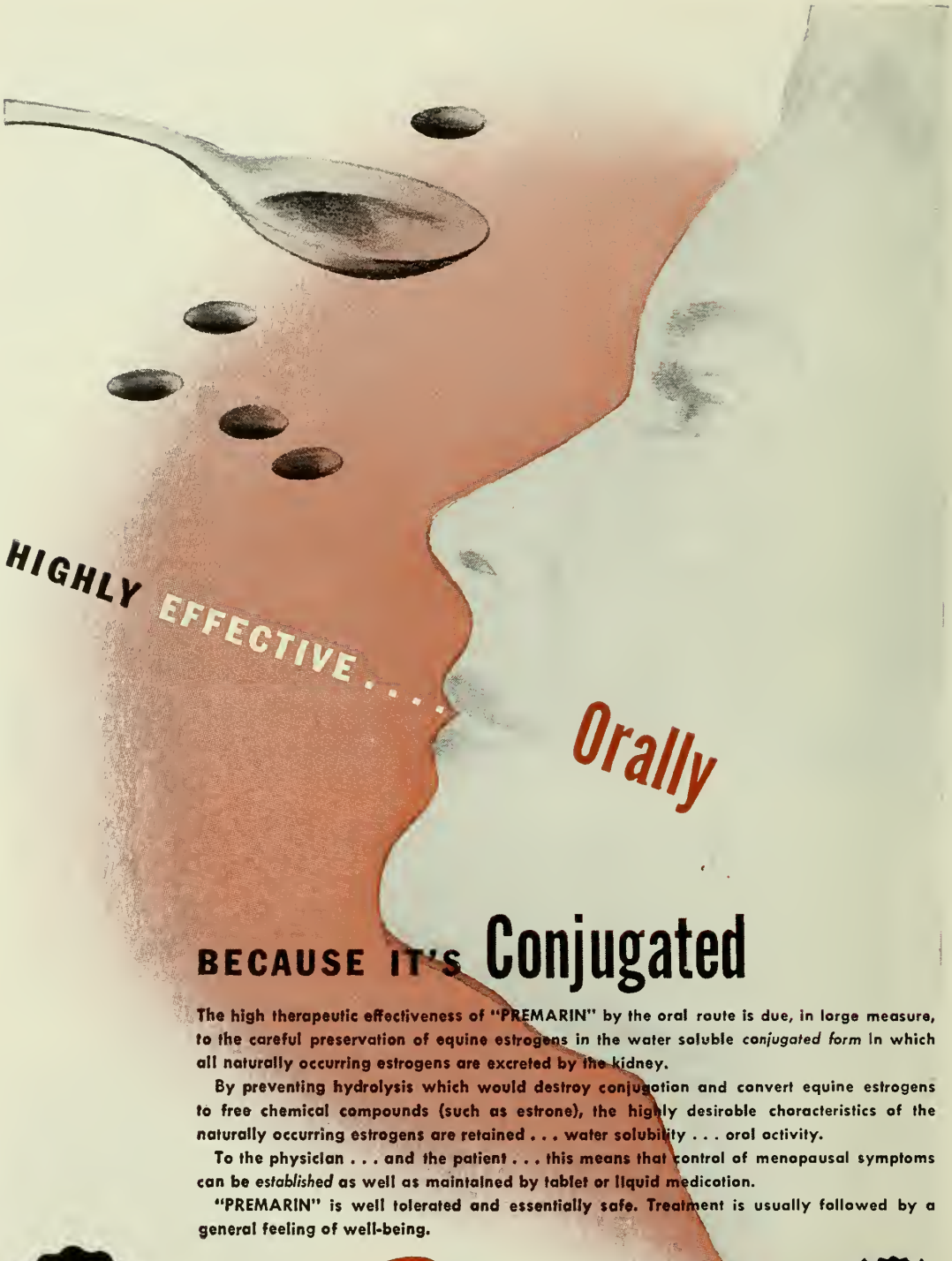


Yes, they are all "Doubting Thomases," these Abbott control technicians, when it comes to testing Abbott Intravenous Solutions. They insist upon rigid tests and searching examinations throughout *each step* of manufacture to insure utmost purity and sterility. Starting with the selection of raw materials in the stockroom, their exacting control on each lot is not relaxed until after it is packed and ready for shipment. In the interim, they make sterility and pyrogen tests, with special pharmacological and biological tests when needed; pH determinations; tests for dissolved chemical impurities; light-inspections of each finished container for color, clarity and freedom from foreign particles. If any of these tests should indicate that the lot is not up to standard, the entire lot would be destroyed. As a final precaution, each cap is vacuum-tested to insure an airtight fit. These tests and controls are your assurance that you can use Abbott Intravenous Solutions in bulk containers with fullest confidence. ABBOTT LABORATORIES, North Chicago, Illinois.

SPECIFY

Abbott Intravenous Solutions

in Bulk Containers



HIGHLY EFFECTIVE . . . Orally

BECAUSE IT'S Conjugated

The high therapeutic effectiveness of "PREMARIN" by the oral route is due, in large measure, to the careful preservation of equine estrogens in the water soluble *conjugated form* in which all naturally occurring estrogens are excreted by the kidney.

By preventing hydrolysis which would destroy conjugation and convert equine estrogens to free chemical compounds (such as estrone), the highly desirable characteristics of the naturally occurring estrogens are retained . . . water solubility . . . oral activity.

To the physician . . . and the patient . . . this means that control of menopausal symptoms can be *established* as well as maintained by tablet or liquid medication.

"PREMARIN" is well tolerated and essentially safe. Treatment is usually followed by a general feeling of well-being.

Ayerst

"Premarin"

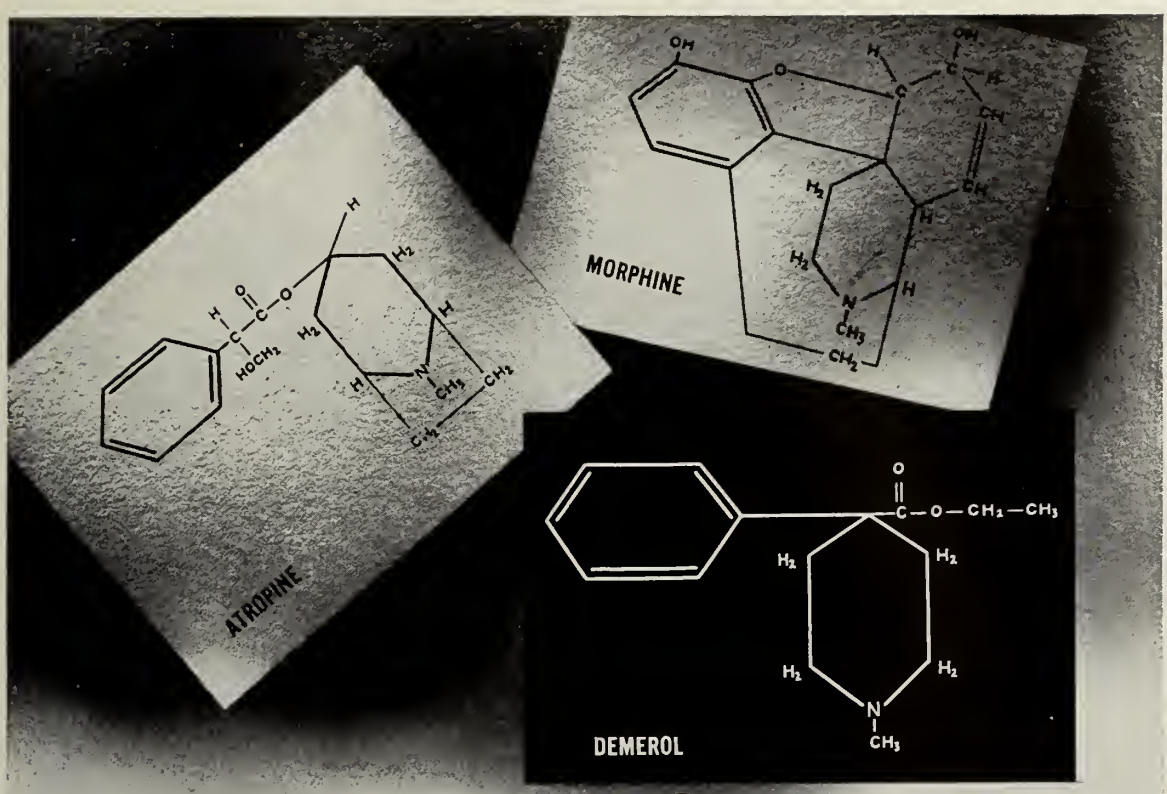
REG. U. S. PAT. OFF.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

CONJUGATED ESTROGENS (equine)

Tablets of 1.25 mg. Tablets of 0.625 mg. Liquid, containing 0.625 mg. per teaspoonful

AYERST, McKENNA & HARRISON LIMITED • 22 E. 40TH STREET • NEW YORK 16, N. Y.



Chemical Relationship and Pharmacodynamic Similarity

A NEW SYNTHETIC

ANALGESIC Demerol's analgesic power ranks between morphine and codeine.

SPASMOLYTIC Demerol's spasmolytic action is similar to that of atropine.

SEDATIVE Demerol's sedative effect is mild, but usually sufficient to allay restlessness and induce sleep.

PRACTICALLY ND RISK OF RESPIRATDRY DEPRESSION
WRITE FOR DETAILED LITERATURE

DEMEROL
Trademark Reg. U. S. Pat. Off. & Canada
HYDROCHLORIDE
Brand of MEPERIDINE HYDROCHLORIDE
(Isanipecaine)

Average adult dose: 100 mg. orally or intramuscularly.

HOW SUPPLIED — For oral use: Tablets of 50 mg., bottles of 25 and 100. For intramuscular injection: Ampuls of 2 cc. (100 mg.), boxes of 6 and 25, and vials of 30 cc. (50 mg. per 1 cc.).

Subject to regulations of the Federal Bureau of Narcotics

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician • New York 13 N. Y. • Windsor, Ont.



When amnesia is a blessing

FEAR of the unknown often cruelly grips the patient scheduled for a major operation. At the time when quiet restful sleep is most important, the patient spends the endless night in wakeful dread.

Your patient's precious energy reserve may be saved by the judicious use of 'Sodium Amytal' (Sodium Iso-amyl Ethyl Barbiturate, Lilly). Administered at bedtime, 'Sodium Amytal' encourages forgetfulness and sleep. The moderately long action of 'Sodium Amytal' in most cases insures an uninterrupted night's rest. The patient sleeps soundly, with no thought of what tomorrow may bring. Specify 'Sodium Amytal' for dependable preoperative amnesia and for basal anesthesia.

For detailed information giving comparative data on the various barbiturates, write for the new forty-five-page booklet, *Therapy with the Barbiturates*, A-984.

Eli Lilly and Company

INDIANAPOLIS 6, INDIANA, U. S. A.

Lilly

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 JULY, 1946 NUMBER 7

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

THYMUS PROBLEM

DAVID S. DANN, M.D.,
KANSAS CITY, MO.

In a discussion of the thymus problem, one must clearly differentiate between two conditions: (1) sudden death or a respiratory syndrome in early infancy for which there is a definite anatomic basis and, (2) the condition of status thymicolymphaticus, for which there is no definite anatomic basis. My discussion is concerned solely with the first condition.

Nobach, in 1921, at the University of Minnesota, reported some fundamental anatomic studies on the thymus which are most important to an understanding of this problem. He made anatomic dissections of infants' chests which show the progressive change in size and shape of the thymus occurring as a result of expansion of the lungs, from the broad fetal type when the lungs are poorly expanded to the long narrow type with complete expansion.

Nobach made some further interesting and valuable studies by cross sections of these infants' chests at the level of the superior strait after they had been hardened in situ. In these cross sections, he demonstrated the posterior projection of the thymus gland as far as the esophagus, effecting, by pressure, narrowing of the blood vessels, trachea and esophagus. Obviously, there must have been pressure on the recurrent laryngeal nerves and the vagus.

When it is recalled that the superior aperture in an infant's chest measures only approximately 2.9 mms. and that through this narrow space pass the esophagus, trachea, blood and lymph vessels, nerves and other tissues, one can understand readily how the addition of an enlarged or persistent thymus can, by mechanical pressure, directly or indirectly, produce the symptoms of the thymus syndrome: cyanosis, dyspnea, stridor and dysphagia and, finally, death by suffocation. It is indeed appropriate to call this the "critical space of Grawitz."

Roentgen studies confirm the anatomic observations of Nobach, showing the progressive change from the broad fetal type to the long narrow type, with expansion of the lungs and the downward descent of the diaphragm coincident with the growth of the infant. In the lateral roentgenogram one can observe the narrowing of the trachea produced by posterior pressure of the thymus. I would urge the employment of the lateral view, in addition to the frontal, to demonstrate this effect.

This is not the place to present a detailed discussion of the roentgen ray technic of the thymus examination. However, I would emphasize the importance of making exposures both in the inspiratory and exspiratory phases of respiration, whether the infant is in the upright, frontal or lateral, supine or prone position. Further, an identical rigid technic must be followed in all examinations.

The answer to the question, "what is the description of the normal roentgen appearance of the thymus?" is obtained by bearing in mind the anatomic studies of Nobach coupled with a knowledge of the normal roentgen configuration of the heart, great vessels and mediastinum of the infant's chest as demonstrated by the individual roentgen technic adopted.

A typical example of the thymus syndrome in infancy is presented with the symptoms of cyanosis, dyspnea and stridor. The roentgenogram presents a convoluted convexly outlined shadow projecting to the right and left in the superior mediastinum, consistent with the shape of an enlarged, hyperplastic or persistent thymus. Roentgen therapy was administered, after which, with the reduction in size of the thymus, the symptoms subsided.

The roentgen dosage employed in the treatment of the thymus gland is small, about 200 r, a fraction of an erythema dose. This small dose has no deleterious effect on mental or physical development, as has been amply demonstrated by a number of follow-up studies on children.

Returning to the diagnosis of the thymus syndrome, it is far from my intention to create the im-

pression that every time an infant is observed presenting respiratory difficulty and an abnormal mediastinal shadow in the roentgenogram, the thymus gland is always the cause of the symptoms. In the differential diagnosis one must consider the following: enlarged mediastinal glands; congenital disease of the heart and great vessels; mediastinal emphysema; congenital stenosis of the larynx, trachea or bronchi; congenital cyst of the larynx; congenital goiter; relaxed soft tissues of the pharynx and larynx; retropharyngeal abscess; meningitis, and one must not forget the effect of prolonged anesthesia during labor.

In the final analysis, the diagnosis of the thymus syndrome in early infancy, the neonatal period, is based on three factors:

1. History of dyspnea, cyanosis and stridor..
2. Roentgen evidence of a hyperplastic or persistent thymus.
3. Relief of symptoms following radiation therapy.

In concluding, these remarks on the thymus problem it is pertinent to quote the words of Chevalier Jackson in his discussion of a paper on this subject by Pancoast and Pendergrass: "The thymus, when hypertrophied or congested, does produce stridor, dyspnea and, if not treated skillfully, death by asphyxia; and I am sorry to say these latter cases are more frequent than is realized, though they are not so common as they were before the discovery of the efficiency of roentgen treatment of thymic hypertrophy. During asphyxia the engorged thymus is jammed up into the bony ring of the upper thoracic aperture. After death the somewhat shrunken thymus retreats downward and the compression may not be evident at autopsy, though I have seen and published cases in which it was evidenced at autopsy by the dinge in the trachea.

"Of all the theories on the mechanism of thymic death, I can say only that they are theories. It is a fact, a clinical fact, that the hypertrophied thymus does compress the trachea, sometimes to the extent of complete occlusion. Hundreds of times, since the initial observation quoted in the paper, I have seen it with my own eyes at the bronchoscope; often I have pushed the bronchoscope through the thymic compression stenosis to keep the child from asphyxiating until I could do a tracheotomy."

410 Professional Building (6)

POLIOMYELITIS

ST. LOUIS CITY HOSPITAL, 1945
STEPHEN L. MAGIERA, M.D.
ST. LOUIS

The poliomyelitis season of 1945 was marked by an active inflow of patients into the isolation ward of St. Louis City Hospital. A total of one hundred thirty-eight cases was admitted from the period dating June 22, 1945, to December 14, 1945. All cases were in the acute stage of the disease, hospitalization being effective, as a rule, to the period of convalescence. Clinical history and physical examination were supplemented by lumbar puncture to confirm the diagnosis in all patients, and only such cases are reported in this study.

Assistant Resident in Medicine, St. Louis City Hospital.

The seasonal trend for case admissions was comparable to the usual curve mapped out for the disease. The first case was admitted to the hospital on June 22, 1945, and was the only one during that month. Following that, however, there was a steady upswing in the number of patients, reaching a peak during the month of September. There was then a gradual decline in the remaining months, the last case being admitted on December 14, 1945. The seasonal distribution of the entire group of cases is illustrated in table 1.

Table 1. *Seasonal Distribution of Cases.*

Month	Number of Cases	Percentage of Cases
June	1	0.7
July	7	5.1
August	26	18.8
September	42	30.4
October	34	24.6
November	21	15.2
December	7	5.1

The St. Louis City Hospital isolation ward served as a center for poliomyelitis admissions for surrounding areas of Missouri and Illinois. There were thirty-five Missouri and twelve Illinois localities represented, with ninety-six cases from Missouri and forty-two from Illinois. The highest admission rate was made up from residents of the City of St. Louis, forty-four cases, followed by East St. Louis, Illinois, with nineteen. The remaining cases were referred from various surrounding communities, in many instances representing isolated attacks of the disease. The locality distribution is indicated in table 2.

Table 2. *Locality Distribution.*

Locality	Number of Cases	Percentage of Cases
St. Louis, Mo.	44	32.6
East St. Louis, Ill.	19	13.7
Remainder, Missouri	52	37.0
Remainder, Illinois	23	16.7
Total, Missouri	96	69.6
Total, Illinois	42	30.4

The age incidence of patients varied from the youngest of 3 months to the eldest of 35 years. There were nine patients under 1 year of age and only one less than 6 months. A steady increase in the incidence of hospital admissions was seen from the age of 1 year to 10 years, one hundred cases fitting into this group. A slow diminution in the number of patients above this age then occurred, twenty-two ranging from 10 to 17 years, and only seven over the age of 17. Table 3 lists the complete distribution of patients according to age.

Table 3. *Age Incidence.*

Age	Number of Cases	Percentage of Cases
Under 1 year	9	6.5
1-2 yrs.	17	12.3
2-3 yrs.	12	8.7
3-4 yrs.	17	12.3
4-5 yrs.	13	9.3
5-6 yrs.	7	5.1
6-7 yrs.	8	5.8
7-8 yrs.	11	7.9
8-9 yrs.	8	5.8
9-10 yrs.	7	5.1
10-17 yrs.	22	15.9
Over 17 yrs.	7	5.1

In the analysis of hospital cases of poliomyelitis, both sexes were found to be almost equally subject to the disease, sixty-six males and seventy-two females represented in this group. This total revealed one hundred twenty-eight white patients and ten Negro, thus showing a nearly equal attack rate in the two races, the Negro population in metropolitan St. Louis having approximately a one to ten ratio with whites. Distribution of patients as to sex and color is shown in table 4.

Table 4. *Sex and Race Distribution.*

Sex and Race	Number of Cases	Percentage of Cases
Males	66	47.8
Females	72	52.2
White Males	62	44.9
White Females	66	47.8
Colored Males	4	2.9
Colored Females	6	4.3
Total White	128	92.8
Total Colored	10	7.2

Complete history and physical examination were constant features attending each patient referred to the isolation ward as an established or suspected victim of poliomyelitis. The usual history pointing to the disease was obtained. Prodromal symptoms consisting of coryza with or without sore throat were present in fifteen patients. The actual onset of the disease usually was marked by fever which was the initial complaint in one hundred nineteen cases. In an occasional case, the original febrile disturbance was followed by an asymptomatic period, three to seven days in duration; this dromedary type of onset was recorded in fifteen patients. Symptoms of meningeal involvement then appeared, characterized by fever, headache, vomiting, drowsiness, irritability to stimulation, stiff neck and stiff back. Some of the patients complained of pain in the neck, between the shoulders or in the back, accentuated by stretching. Pain in the legs, hips or arms was commonly present, and groups of affected muscles were sensitive to pressure and passive motion. When the disease had progressed to the paralytic stage, partial or complete paralysis was often the most prominent complaints, weakness of one or more extremity a major complaint in sixty-five cases and actual paralysis in thirty-eight. In bulbar cases, besides the usual manifestations of meningeal involvement, symptoms such as nasal speech, regurgitation of fluids through the nose and mouth and inability to swallow were present. Symptoms of respiratory involvement and sphincter disturbances were occasional complaints. An attempt was made to elicit the source of infection in all patients, a positive history of exposure being obtained in only nine cases. The disease was present in two members of a family in six instances, five times in siblings and once in a mother and daughter. A past history of tonsillectomy was given by fourteen patients, two of these within three weeks prior to onset of the disease. Principal facts obtained by routine history are outlined in table 5.

Table 5. *Symptomatology.*

Symptoms	Number of Cases	Percentage of Cases
Catarrhal prodrome	15	10.8
Fever at onset	119	86.2
Dromedary type of onset	15	10.8
Headache	50	36.2
Vomiting	43	31.2
Lethargy	18	13.0
Irritability	12	8.7
Malaise	14	10.1
Stiff neck	32	23.2
Stiff back	19	13.8
Backache	29	21.0
Pain between shoulders	15	10.8
Extremity pain	33	23.9
Abdominal pain	12	8.7
Weakness of extremity	65	47.1
Paralysis	38	27.5
Difficulty swallowing	14	10.1
Difficulty urinating	8	5.8
Difficulty breathing	3	2.2
Contact with the disease	9	6.5
Tonsillectomy	14	10.1

The physical examination is the important procedure whereby the signs elicited make the picture of infantile paralysis a characteristic entity. In the majority of patients referred to City Hospital the disease had progressed to the stage of partial or complete, flaccid paralysis and the diagnosis was fairly obvious. Most of the patients appeared acutely ill, and fever, flushed face and pallor about the mouth and nose were invariably present. Moderate to marked hyperemia of the pharynx was common and the tonsils were often hypertrophied. The remainder of the physical examination was dominated by findings dealing with the nervous system. A stiff neck and stiff back which are considered characteristic features of the disease were the most constant physical findings elicited. Kernig and Brudzinski signs were frequently positive but not to a marked degree, while a positive Babinski was rare. Reflexes were found to be hyperactive only in the early, acute phase of the disease, asymmetrical variations in the majority of patients tending to diminution or complete abolition. No sensory changes were elicited in the course of the neurologic examination on all patients. Physical examination was concluded by the demonstration of weakness or complete paralysis in the various regions involved in the paralytic stage of the disease and by the exclusion of these findings in the preparalytic or abortive cases of poliomyelitis. The significant physical findings are presented in table 6, and the regions involved are shown in table 7.

Table 6. *Physical Findings.*

Findings	Number of Cases	Percentage of Cases
Pharynx injected	80	58.0
Tonsils hypertrophied	37	26.8
Back and neck stiff	116	84.1
Neck stiff alone	11	8.0
Kernig and Brudzinski	30	21.7
Kernig only	22	15.9
Babinski	2	1.4
Normal reflexes	21	15.2
Hyperactive reflexes	4	2.9
Hypoactive reflexes, arms	27	19.6
Hypoactive reflexes, legs	28	20.3
Areflexia	16	11.6
Areflexia, arms	7	5.1
Areflexia, legs	54	39.1
Weakness of extremity	82	59.4
Paralysis of an extremity	54	39.1

Table 7. *Regions Involved.*

Region	Number of Cases	Percentage of Cases
One leg	16	11.6
Two legs	46	33.3
One arm	7	5.1
Two arms	3	2.2

One arm and leg same side	3	2.2
One arm and leg opposite side	3	2.2
Two legs and one arm	7	5.1
Two arms and one leg	1	0.7
Arms and legs	16	11.6
Abdomen	28	20.3
Pharynx	14	10.1
Intercostals	16	11.6
Diaphragm	9	6.5
Facial	12	8.7
Strabismus	2	1.4
Bladder distention	13	9.3

A lumbar puncture was performed on all patients as a final procedure to substantiate the diagnosis. The findings determined from the spinal fluid were for the most part those typical of the disease, namely, pleocytosis and an elevated protein content. Total cell counts varied from five to four hundred fifty, with lymphocytes the predominating cells in every case. Polymorphonuclear leukocytes are usually present in the acute stage of the disease and at its onset may be the predominating cells. In this group of patients, polymorphonuclear cells were present in the spinal fluid on fifty occasions, ranging from 2 to 50 per cent of the total count and never above the latter figure. In five cases the spinal fluid cell count was normal although the patients were in the acute stage of the disease, lumbar puncture being done in the early phase, ranging from one to six days after onset of symptoms. However, in each case the history, physical examination and subsequent course warranted a diagnosis of poliomyelitis. A positive Pandy reaction was recorded in sixty-three cases, no reaction in seventeen and in fifty-seven no result was charted. Variation in number of lymphocytes obtained in spinal fluid cell counts is shown in table 8.

Table 8. *Lymphocytes in Spinal Fluid.*

Number	Number of Cases	Percentage of Cases
0-10	5	3.6
10-50	50	36.2
50-100	40	29.0
100-150	18	13.0
150-200	10	7.2
200-300	7	5.1
300-400	5	3.6
400-450	2	1.4

Treatment of poliomyelitis is still in the experimental stage; no specific curative effect with any drug or biologic is known. Therapy of the acute stage of the disease is entirely symptomatic, aiming to counteract the effects of acute infection, managing the results of bulbar involvement, alleviation of respiratory embarrassment, relieving muscle pain and spasm and providing orthopedic care. Thus all patients admitted to the ward were subjected to much the same therapy regime, depending on type and degree of involvement, with the primary aim to save life, relieve discomfort and keep the patient in the best possible physical condition. Rest, quiet and comfort were essential features. Physiotherapy in the form of intermittent to continuous hot packs were employed wherever muscle spasm was found. For patients who experienced difficulty or inability to swallow, nothing was given by mouth and tube or parenteral feedings were used. Frequent aspiration was maintained whenever mucus and saliva accumulated in the pharynx. The respirator with or without oxygen was employed in all cases in which respiratory embarrassment progressed to a severe degree and such a measure was necessary to maintain life. No ill effects were noted from its use in patients who progressed to improvement and recovery. Other symptomatic measures were utilized in response to the needs of the individual case. After termination of the isolation period of two weeks, every patient was examined by an orthopedist and further care, hospital or home, was outlined. Thus an effective program with adequate care for every patient was maintained.

A final classification of the entire group of patients as to mortality, number of bulbar and respirator cases and the degree of involvement as a result of the disease was made. The mortality rate was 10.8 per cent. There were twenty-nine cases of bulbar poliomyelitis with fourteen deaths, forming 93.3 per cent of the total mortality rate, and a case fatality rate of 48.3 per cent. The respirator was used in twenty cases with thirteen deaths, a case fatality rate of 65 per cent. All of the survivals were then grouped into four classes to depict the severity of the disease at time of discharge and to serve as a measure of prognosis in their recovery. Thus 8.7 per cent of the cases were graded as severe, 20.3 per cent as moderately severe, 40.6 per cent were mild and 19.6 per cent had no residua at time of discharge. Of the forty-four cases of poliomyelitis from the City of St. Louis, there were three deaths, a mortality rate of 6.8 per cent. Six cases were of the bulbar type with two deaths, a case fatality rate of 33.3 per cent. The majority of the cases were mild or had no residua at time of discharge from the hospital, comprising 68.2 per cent of the St. Louis admissions. Only 6.8 per cent of the patients in this group were classified as severe, and 18.2 per cent as moderately severe. The complete classification of the entire group of hospital admissions as to mortality, number of bulbar and respirator cases and the degree of involvement is given in table 9.

Table 9. *Mortality, Bulbar and Respirator Cases, Degree of Involvement.*

Result	Number of Cases	Percentage of Cases
Mortality	15	10.8
Bulbar cases	29	21.0
Bulbar deaths	14	48.3
Respirator cases	20	14.5
Respirator case deaths	13	65.0
Severe	12	8.7
Moderately severe	28	20.3
Mild	56	40.6
No residua	27	13.0

The histologic changes of poliomyelitis consist of perivascular infiltration of mononuclear and polymorphonuclear leukocytes, of nodular foci of these infiltrating cells and of degeneration of the ganglion cells with both neuronophagia and satellitosis. The lesions are most marked in the anterior horns of the cord but the posterior horns, the anterior and posterior nerve roots and the Gasserian ganglion also are involved. The cord is more often affected than the brain, but in both the distribution is irregular. Although the disease is termed a my-

elitis, brain lesions frequently are found. Lesions are prominent in the brain stem, pons and dentate nucleus of the cerebellum; they are slight or absent in the cerebral cortex. The histologic changes in poliomyelitis thus have certain features in common with those seen in encephalitis. But, whereas, in encephalitis, the changes diminish as they are traced down, in poliomyelitis they diminish as they are traced up. In poliomyelitis, both the inflammatory and the regressive changes are more severe than in encephalitis. Moreover, in encephalitis the lesions are more numerous in the periaqueductal region of the midbrain and in the St. Louis type they extend higher in the cerebral cortex.

During the 1945 season of poliomyelitis there were occasions when the clinical picture presented by the patient resembled encephalitis, and an immediate and certain diagnosis of poliomyelitis was doubtful. Case reports with significant pathologic findings of four cases of bulbar poliomyelitis are presented below.

CASE REPORTS

Case 1. S. B., a 4 year old, while girl was admitted to the hospital on September 11, 1945, with chief complaints of headache and fever of four days duration, and coma of seven hours. Patient was in good health until four days before entry when she complained of a headache and had a fever. These symptoms persisted and in the following two days she developed paralysis of both lower extremities. At the same time she also became very lethargic. The severity of her illness became more pronounced and seven hours before admission she became comatose and could not be aroused.

Physical examination on entry revealed a temperature of 39.2 C., pulse rate 136 and respiratory rate 36. The patient was acutely ill, comatose and did not respond to any stimuli. Respirations were increased in rate and were shallow, but both diaphragmatic and intercostal excursions were present. Her face was flushed; skin was clear, and there was no cyanosis. Pharynx was moderately injected; the gag reflex was present. Nystagmoid movements of the eyes were observed. Heart and lung examinations showed them normal. The abdomen was tympanitic with distention and loops of bowel were seen on outline on the upper abdominal wall. No muscle guard, rigidity or masses were present. The back and neck were stiff. The lower extremities were flaccid and knee jerks were absent; all other deep reflexes were hypoactive. Kernig's sign was positive.

Lumbar puncture was performed and a clear fluid was obtained which contained seventy-two cells; sixty-three lymphocytes and nine polymorphonuclears. Pandy test was positive. White blood cell count was 25,300 per cu mm., with a shift to the left on the Schilling count. Red blood cell count was 4,230,000 per cu. mm., and hemoglobin 12.5 gm. Urinalysis revealed a specific gravity of 1.020, albumin 2 plus, acetone 4 plus, and on microscopic examination from 10 to 12 casts, hyaline and granular in type and an occasional red blood cell. Blood nonprotein nitrogen and sugar were normal and the Kahn test was negative. The CO_2 combining power of the blood was 49 vol. per cent.

Patient was given intravenous and subcutaneous infusions of fluid immediately upon entry to the hospital. Shortly after admission she began vomiting and Wangensteen suction was employed. Her respirations became more labored and she was placed in the respirator about two hours after admission. Her unfavorable course continued and the patient expired on September 12, 1945, at 1:30 a. m.

Autopsy Findings.—On gross examination the leptomeninges contained a slightly increased amount of fluid. The brain appeared to be large, firm and swollen; it completely occupied the cranial cavity. The veins over the surface of the brain were dilated. The brain when fixed weighed 1,250 grams. There was marked engorgement of the leptomeningeal vessels. In the basal ganglia near the intimal capsule there were small foci of extravasated blood, and numerous similar foci were seen throughout the substance of the brain. A slight compression ring was noted in the cerebellum. Microscopic examination revealed that the leptomeninges were swollen. The fibrils were distended and the fibrillar network showed infiltration, chiefly of mononuclear cells. The vessels were enlarged and filled with white cells. The mantles of the capillaries showed infiltration of mononuclear and polymorphonuclear cells. A similar cell infiltration was noted in the cortex adjacent to the meninges. Scattered throughout the cortex, but especially through the basal nuclei and above all the bulbar nuclei of the pons and upper cervical medulla, were marked perivascular infiltrations of mononuclear and polymorphonuclear cells. Frequently, in these areas, neuronophagia was present and phagocytosis exhibiting microglial and white cells accumulated around the protoplasmic process of the ganglion cell. Where the brain tissue had been destroyed bodies and foci of demyelinization of the white matter were noted. Many ganglion cells were swollen, the tigroid being dissolved and pyknotic. Inclusion bodies were not detected.

Case 2. B. J., a white girl, aged 8, was admitted to the hospital at 12:30 a. m., October 26, 1945. Four days prior to admission she became ill with fever and generalized weakness. On the following day she became listless and complained of stiff neck. Two days before admission she had difficulty in moving her arms and legs which subsequently progressed to complete paralysis. On the day prior to entry she had difficulty in breathing and became increasingly lethargic.

Physical examination revealed a temperature of 39 C., pulse rate 120 and respiratory rate 10. The patient appeared acutely ill and was lethargic, responding only to painful stimuli. Her respirations were shallow and irregular with all accessory muscles of respiration in use. Intercostals were completely paralyzed and diaphragmatic excursion was weak. Her nail beds and lips were cyanotic. The gag reflex was intact. There was complete, flaccid paralysis of all four extremities with absence of deep reflexes. No other positive physical signs were noted.

The patient was placed in the respirator immediately with nasal oxygen, and plasma was started intravenously. Penicillin was begun prophylactically. She continued in a state of lethargy and progressed to complete respiratory paralysis and ultimate circulatory failure. The patient expired on the day of admission at 5:40 p. m.

Autopsy Findings.—On gross inspection the meninges were translucent and filled with an extensive amount of clear fluid. The convolutions of the cerebrum were flattened and the sulci were narrowed. On cut section the parenchyma was congested. Weight of the brain was 1,320 grams. On microscopic examination there was seen an intense lymphocytic infiltration in the leptomeninges. There was a marked perivascular infiltration of round cells, and satellitosis and neuronophagia were noted about the ganglion cells in the cortex and basal ganglia, but particularly in the anterior and central horn of the bulbar nuclei and medulla with slight oligodendroglial proliferation.

Case 3. R. S., a 35 year old, white woman entered the hospital at 10:30 p. m., November 7, 1945, with chief complaints of headache, fever and backache, all of three days duration. On the day after onset of her illness her symptoms increased in severity and she also had a chill. On the day of admission she developed respiratory difficulty and noted some weakness in her arms.

The patient's daughter had a similar illness which terminated fatally on the day the mother was admitted to City Hospital.

On physical examination the temperature was 38.8 C., pulse rate 98, respiratory rate 26. She was a well developed and well nourished white female who appeared in moderate respiratory distress. Her respirations were chiefly abdominal, intercostal excursion present but weak. There was no cyanosis. The pharynx was injected moderately; gag reflex was present. Back and neck were very stiff and Kernig and Brudzinski signs were positive. There was partial paralysis of both upper extremities. The deep reflexes were hypoactive in both arms and normal in the lower extremities. No other findings were elicited.

Lumbar puncture revealed a clear fluid with 90 cells; 80 per cent lymphocytes and 20 per cent polymorphonuclears. Pandy reaction was positive. The spinal fluid protein was 58 mg. per cent, sugar 76 mg. per cent and chloride 672 mg. per cent expressed as NaCl. The white blood cell count was 10,500 per cu. mm., with a normal Schilling count. Erythrocyte count was 4,400,000, and hemoglobin 13 grams. Urinalysis was normal and Kahn test was negative.

The patient was given nasal oxygen with some relief of her respiratory difficulty. However, on the following day she suddenly developed acute respiratory distress, became very cyanotic and comatose and was placed in the respirator. Penicillin was started prophylactically. The patient improved slightly within the next twenty-four hours, but then spiked a temperature and could not be aroused. Physical examination revealed dulness at both bases and crepitant rales throughout both lung fields. She remained in a comatose state and continued a gradual downhill course. On November 12, 1945, at 4:10 p. m., the patient expired.

Autopsy Findings.—The vessels of the meninges and brain tissue were congested with blood. There were minute foci of extravasated blood in the pons and medulla. The brain weighed 1,300 grams. Microscopic examination: The leptomeninges and cerebral vessels were engorged with blood and there were cuffs of mononuclear and polymorphonuclear cells. Perivascular infiltration was present throughout the brain, and particularly in the basal ganglia, pons and medulla. Numerous nerve cells were destroyed and an occasional one showed a partially destroyed nucleus. Neuronophagia was prominent in the pons and medulla.

Case 4. M. B., a white girl, aged 12, was admitted to the hospital at 3:15 p. m., November 24, 1945. Her illness began three days before when she had a chilly sensation followed by fever, headache and backache. She also became very listless and appeared asleep most of the time. On the evening before admission she could not move her arms or legs and developed difficulty in breathing. She then lapsed into a stuporous state and was referred to City Hospital.

On admission the temperature was 38.5 C., pulse rate 100, and respiratory rate 24. The patient was a fairly well developed and nourished white girl who was acutely ill and in a stupor. Her voice was very weak and her respirations were feeble. Lips and nail beds were cyanotic. There was no intercostal excursion and diaphragmatic movement was weak. Back and neck were markedly stiff and Kernig and Brudzinski signs were positive. There was complete, flaccid paralysis of all extremities and all deep reflexes were absent. Her pharynx was injected mildly; gag reflex was present. Examination of the lung fields revealed moist rales scattered throughout both lung fields.

The spinal fluid cell count was 250; all the cells were lymphocytes. The protein content of the spinal fluid was 61 mg. per cent, sugar 70 mg. per cent, and chloride 726 mg. per cent expressed as NaCl. White blood cell count was 10,400; red blood cell count 6,500,000; and hemoglobin 15 grams. Urinalysis was normal and Kahn test was negative.

Because of the severity of her respiratory embarrassment the patient immediately was given nasal oxygen and then placed in the respirator. Penicillin also was started and plasma was administered. The patient did not improve but continued in a stuporous and feeble state with progression of the disease to complete respiratory paralysis and circulatory failure. She expired at 8:00 p. m., November 26, 1945.

Autopsy Findings.—The leptomeninges were congested moderately over the entire surface of the brain. The brain weighed 1,420 grams. Cut section showed the vessels, particularly in the region of the brain stem, engorged with blood. Throughout the brain, and especially in the stem, pons and medulla, small petechiae were noted. Microscopic examination: The vessels of the brain stem were congested markedly and there was an intense infiltration of polymorphonuclears and lymphocytes around them. Many of the neurons were in the various stages of degeneration and necrosis. Some of the neuron cells had lost their nucleus and there was an infiltration of lymphocytes showing formation of nodules composed of mononuclears in these areas. In many areas the brain tissue was vacuolated and edematous. Section through the pons and medulla also show these changes. There was a perivascular infiltration of polymorphonuclears and lymphocytes in the meninges. Everywhere there was evidence of satellitosis and neuronophagia. The media of the cerebral vessels showed encrustation with calcium.

SUMMARY

The St. Louis City Hospital isolation ward was an admitting center for hospital cases of poliomyelitis for the City of St. Louis and surrounding Missouri and Illinois communities during the poliomyelitis season of 1945. Only forty-four cases were admitted from St. Louis, representing a mild incidence of the disease both in occurrence and severity. More than one half of the cases were suburban or rural in distribution. The striking feature for the 1945 season was the high incidence of bulbar cases showing a marked degree of involvement and a rather severe mortality rate.

REINFECTION WITH SYPHILIS

CHARLES C. DENNIE, M.D.
AND
LENNERT B. MELLOTT, M.D.
KANSAS CITY, MO.

Is it possible for an individual who has been cured of syphilis to acquire the disease the second time? This question is debatable. Some men contend that this phenomenon occurs time and again. Others claim that it is but a recurrence of the old disease. Should the new lesion appear at the site of the old one, it is known as "chancre redux" and is an indication of the revival of the old syphilis. In order for a primary lesion to be a new infection, it must occur in a syphilitic who has been treated successfully and whose serologic reaction at the time is entirely negative; the lesion must appear on a new area of the genitals and the Treponema pallidum must be recovered by darkfield illumination. It is not always possible to determine these conditions by observation alone. We believe it is entirely possibly for an individual to contract

From the University of Kansas School of Medicine.



syphilis again after he has been clinically cured of it.

The case reported seems to fulfill all of the conditions of a new infection with syphilis.

REPORT OF CASE

A white male, aged 31, came to the office on January 19, 1946. He stated that eleven days previous to his visit he had been hit on the right side of the upper lip by a piece of hot metal while at work as a welder and this caused a sore on his lip which would not heal. He consulted the company physician, who advised him to have a darkfield examination made but the patient did not do so. Instead, he put hot packs on it at home but, when the lip continued to swell, even though it was painless, he sought advice.

Physical examination revealed two large, circumscribed ulcers on the right side of the upper lip with elevated, indurated borders and smooth, glistening red floors. There was a moderately enlarged satellite bubo at the angle of the right jaw and the entire lip was edematous and thickened. A darkfield examination demonstrated the Spirochaeta pallida but our serologic examination was negative. We repeated the test, using both Wassermann and Kahn, which were likewise negative.

Although there is no way of verifying the statement of the patient, since the records of the U. S. Navy are not available, he gave this story: While serving in the Navy in 1941, he developed a chancre of the penis which was diagnosed as primary syphilis. The diagnosis was substantiated by a positive serologic reaction and treatment was instituted. He was given the standard army treatment for primary syphilis for a period of eighteen months, at the conclusion of which his serologic reaction was negative. Two lumbar punctures were done and each declared negative. The patient was pronounced cured and at the time of his discharge from the Navy, his serologic reaction was again negative.

As proof of this being a reinfection, we cite that the patient stated he and his wife were married in August 1945, at which time both of them had negative serologic reactions on premarital examinations and were declared not infected with syphilis.

As further proof that this is a reinfection, the patient stated that his wife developed a rash involving the palms and soles with sores in the mouth, but the rash did not itch so she did not consult a doctor until she discovered she was pregnant. A routine serologic examination then revealed a 4 plus Wassermann reaction.

We feel this patient was cured of his first infection and that he procured the second one by kissing his wife, who had secondary lesions of the mouth. The occurrence of the new chancre on the lip and not on the site of the old infection is proof of a reinfection. The accompanying illustration shows the condition of the patient's lip at the time he presented himself at the office for diagnosis and treatment. He was given the combined rapid treatment of penicillin, mapharsen and bismuth and the lesions healed rapidly.

This case is the third case seen in this office, in which it was felt the patient definitely was cured of the first infection with syphilis and procured a second infection.

1524 Professional Bldg.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 7. July, 1946.

Minimal pulmonary tuberculosis is a relatively new disease to most physicians because its recognition has waited the general employment of improved roentgen ray technics. Our familiarity with the classical findings and symptoms of *advanced* tuberculosis may be the very factor which causes us to overlook ill-defined manifestations of *early* tuberculosis. Here the roentgen ray often provides the missing clue.

THE EARLY DIAGNOSIS OF MINIMAL PULMONARY TUBERCULOSIS

There are numerous vital reasons that indicate the importance of diagnosing tuberculosis in the minimal stage. The percentage of arrested or healed cases is highest, and the time required to obtain an arrest of the disease much the shortest in minimal cases. Collapse measures are infrequent and when used are less extensive, with complications, morbidity and mortality thereby reduced. The minimal cases, moreover, have far fewer recurrences. The percentage of those employed or able to work after treatment is much higher in this group.

The public benefits from the early diagnosis and cure of the disease. In persons with positive sputum, the spread of tuberculosis to their families and friends and the community is avoided. The shorter hospitalization period required for minimal cases means that public expenditures for them and their families are thereby definitely lowered.

To determine the factors that could aid the making of an early diagnosis, 200 cases with minimal lesions were studied. These patients were consecutive admissions to the Otisville Sanatorium, and all the cases were minimal on admission, ac-

cording to the standards of the National Tuberculosis Association. Of the entire series, 155 patients were between the ages of fifteen and thirty-five. Forty-five patients were over thirty-five years old, with 20 of them older than forty. There has not been enough emphasis on the fact that tuberculosis often occurs in the elderly. Far too frequently the symptoms of older people are explained on the basis of other conditions, such as chronic bronchitis, asthma or winter or cigarette cough. The 200 patients were quite evenly distributed according to sex and marital status. Several races and over forty different occupations were represented indicating that tuberculosis should be suspected at any age, in any occupation and with any type of social or economic background.

Sixty-seven patients (34 per cent) had had some contact with tuberculosis. A history of contact with this disease indicates that the patient obviously has had opportunities to become infected. The high tuberculosis morbidity and mortality rate for those with household contact has often been emphasized and the danger for children has been stressed. Every person who has had contact with tuberculosis patients should have a complete examination, including roentgen ray at once. This should be repeated every year, and preferably every six months. Lack of contact, however, does not rule out the presence of tuberculosis.

Of these 200 patients, only 37 (19 per cent) were without symptoms. One hundred and fifty-five patients had specific complaints, and eight gave a history of pleurisy. The statement has often been made that minimal tuberculosis is asymptomatic. This study significantly shows that the great majority of these patients do have symptoms. Certain symptoms are particularly frequent in minimal tuberculosis. Unfortunately, however, these are not characteristic or specific for this disease. Symptoms in themselves cannot serve as the sole criterion for the diagnosis of tuberculosis, but when present they should definitely suggest a chest roentgen ray examination.

Besides contact and routine examinations, the only factor that aided early diagnosis in this series was an acute onset or hemoptysis that prompted an immediate medical check-up. There is need for education of the public to consult physicians early regarding symptoms. The importance of the symptoms should be stressed, especially those that are not striking in character. In 21 patients a diagnosis of tuberculosis was not suspected or made at the first medical consultation.

Almost 75 per cent of the errors were in diagnosis of nontuberculous respiratory or upper respiratory conditions. To prevent these errors, it should be a routine practice not to make a diagnosis of pneumonia, bronchitis, asthma, pleurisy, chest cold, catarrhal fever or grippe without first considering tuberculosis. The symptoms and physical findings in these cases may be those encountered in tuberculosis. To determine definitely the presence of tuberculosis a roentgen ray and sputum examination and occasionally a tuberculin test are requisite for all these patients. This would not be an impractical or uneconomical procedure, for the yield of active cases of tuberculosis would be considerable.

The most valuable diagnostic physical finding in tuberculosis is the presence of râles, but only 29 per cent of these 200 minimal cases had râles. In minimal tuberculosis a normal physical examination is usual.

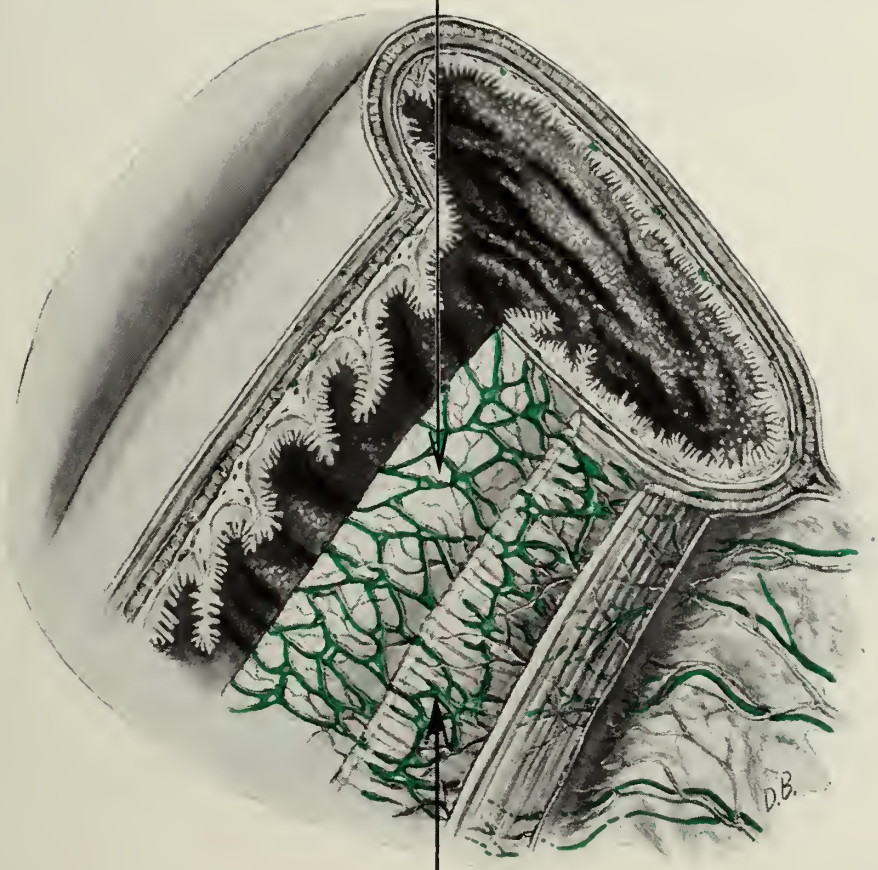
The demonstration of tubercle bacilli is, of course, absolute proof of tuberculosis, but the presence of a negative sputum does not mean that tuberculosis is absent. This is particularly true in minimal cases. In this series, 78 per cent were without positive sputum.

It is not necessary to wait for a positive sputum to make a diagnosis of minimal tuberculosis, since an early roentgen ray examination, properly followed up, will indicate the disease. Needless to say, in a case with a purulent sputum persistently negative for tubercle bacilli, tuberculosis is undoubtedly not present. Other laboratory findings were of little help in diagnosis.

The physician in general practice can be extremely valuable in finding cases of tuberculosis. The patients that come to physicians' offices are a fertile field for mass surveys. It is estimated that 30 per cent of the general population visit a physician during the year. Fluoroscopy is of definite value and is much better than a physical examination for the discovery of minimal cases, but it cannot be relied on solely for diagnosis. To be certain of the presence or absence of tuberculosis, it would be necessary to roentgen ray patients considered negative on fluoroscopy.

The main problem in the control of tuberculosis is that of early diagnosis. As the next stop, however, treatment should be provided without delay. It is the duty of the physician to educate the patient and his family in the infectiousness of the disease and of the value and necessity of immediate care. A patient may delay proper attention at home, postpone seeking admission to the sanatorium or continue to work after the diagnosis because necessary home adjustments have not been made. To meet these situations requires the cooperation of public or voluntary social service and welfare associations and of public health nursing and medical groups. If such problems are taken care of, patients will be prompted to accept medical treatment as soon as the diagnosis has been made. The possibility of progression of the disease can then be diminished and the morbidity and mortality of advanced tuberculosis thereby avoided.

The Early Diagnosis of Minimal Pulmonary Tuberculosis, I. D. Bobrowitz, M.D., and Ralph E. Dwork, M.D. The New England Journal of Medicine, January 3, 1946.



smoothage — *stimulates the plexus of Auerbach and Meissner by gentle distention of the bowel wall, initiating reflex peristalsis and movement of the fecal mass.*

metamucil — the highly refined mucilloid of a seed of the psyllium group, Plantago ovata (50%), combined with dextrose (50%) as a dispersing agent—provides smoothage for the physiologic management of constipation.

Metamucil is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois.

searle — *RESEARCH IN THE SERVICE OF MEDICINE*

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

Effective Against CHIGGERS

(RED BUGS)



SULFUR FOAM APPLICATORS

Convenient Cloth Applicators Impregnated with Sulfur and Soap

DURING THE COMING SEASON this timely prescription product will bring relief and grateful thanks from patients suffering from chiggers.

Sulfur Foam Applicators are indicated whenever sulfur is to be used externally.

They have the advantage of...

...even dispersal of fine sulfur particles
...convenience—they are easy to use
...elegance—no grease, mess or stain
...safety, minimizing the possibility of sulfur dermatitis

Complete directions with each package



TREATMENT

PROPHYLAXIS

SULFUR FOAM APPLICATORS

Wyeth
REG. U. S. PAT. OFF.

WYETH INCORPORATED • PHILADELPHIA 3 • PA.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

JULY, 1946

EDITORIALS

PHYSICIAN WANTED

Rural areas in Missouri are in need of and want doctors of medicine. Some Medical Officers released from service have located in rural areas where they have been welcomed and have received the cooperation of the community. Many letters are received in the Association office regarding the need for doctors in rural areas of Missouri and a number of Medical Officers about to be released from service request information concerning desirable localities for practice in Missouri. Requests come from chambers of commerce, civic organizations and interested citizens asking that their communities be supplied with doctors.

From the Daily Mail

"This town has in operation a large sawmill, handle factory and stave mill employing sixty-five men and the Cudahy Cheese Plant employing twenty men; it is a commercial fruit growing center. People in need of a doctor have to secure one from other towns, the nearest nine miles away and the next twenty miles."

and

"The Chamber of Commerce is trying to locate a good medical doctor for this town of 600 population."

also

"250 square miles of the best farms in Missouri, five towns are without a doctor for the first time in many years. Office and apartment available, hard roads, ten miles from two hospitals."

WHY DO DOCTORS OPPOSE THE WAGNER-MURRAY-DINGELL BILL?

In another section of THE JOURNAL is reprinted an abstract of the statements of Dr. Lowell S. Goin given before the United States Senate Committee on Education and Labor which is conducting hearings on Senate Bill 1606. Dr. Goin is especially well qualified to discuss the proposed legislation. He is a practicing physician, President of the California Physicians Service which is the largest voluntary health care plan conducted by physicians, President of the American College of Radiology, President of the Radiological Society of North America, and a delegate from the California Medical Association to the American Medical Association.

Dr. Goin has set forth in a masterly fashion the reasons why the physicians are opposed to the Wagner-Murray-Dingell Bill. His testimony contains a clear, honest appraisal of the efforts of the medical profession to deal with the problems of extending comprehensive medical care, as well as a keen analysis of the pitfalls of the proposed legislation. He acknowledges that the medical profession has made mistakes in grappling with this subject in the past, and then proceeds to show how they have been corrected and what the doctors have done to distribute adequate medical care to all classes of people. Most important of all he points out that an orderly progressive and practical evolution of the problem is under way—that given a reasonable time it will be solved. Certainly, a sudden revolutionary legislated program is not the solution as it will bring confusion, medical bureaucracy and political interference all at an uncalculable expense.

NEWS NOTES

Dr. Barnard C. Trowbridge, Kansas City, has been appointed Chief of the Department of Otolaryngology, AAF School of Aviation Medicine, Randolph Field, Tex.

Dr. H. I. Spector, St. Louis, spoke on "Puzzling Chest Conditions" at the annual meeting of the Illinois Chapter of the American College of Chest Physicians in Chicago on May 13.

Dr. Wendell Scott, St. Louis, has been appointed a member of the Board of Consultants to the Surgeon General of the United States Navy to represent the specialty of radiology.

Dr. R. Lee Hoffman, Kansas City, president-elect of the Jackson County Medical Society, spoke at the thirty-fifth annual meeting of the Pan-Missouri Medical Society.

Dr. William J. Stewart, Columbia, conducted the diagnostic clinic for crippled children, sponsored by Missouri State Medical Association, at Willow Springs public school on May 18.

Dr. George H. Klinkerfuss, St. Louis, was elected president of the Audubon Society of Missouri.

Dr. L. R. Sante, St. Louis, spoke at the refresher course in surgery at the University of Kansas hospitals on May 17.

Dr. William P. Williamson, Kansas City, spoke on "Herniated Intervertebral Discs."

Elmer P. Nester, Associate Director of Group Hospital Service for the past six years, has been appointed Executive Director of the Blue Cross hospital service plan succeeding Ray F. McCarthy who will continue his association with the hospital plan in a consulting capacity.

Drs. T. F. Cook and E. E. Gay, Richmond, and J. D. Stoelze, Kirkwood, were awarded bronze medals and certificates of outstanding merit for their service as medical examiners for their local draft boards.

Mrs. A. L. Walter, Sedalia, was installed as president of the woman's auxiliary to the Pettis County Medical Society on May 3. Other officers include: Mrs. H. A. Hite, vice president; Mrs. J. M. Rodeman, secretary; Mrs. J. W. Boger, treasurer, and Mrs. C. H. Bracy, parliamentarian.

DEATHS

Allen, John Pearl, M.D., Cairo, a graduate of Barnes Medical College, 1904; former vice president of Randolph-Monroe County Medical Society; Fellow of the American Medical Association; aged 68; died February 9.

McConnell, Charles T., M.D., Richmond Heights, a graduate of Beaumont Medical College, 1899; member of St. Louis County Medical Society; aged 71; died March 26.

Kendig, Howard M., M.D., Sikeston, a graduate of Northwestern University School of Medicine, 1924; former president of Scott County Medical Society; aged 48; died April 5.

Graul, John D., M.D., St. Louis, a graduate of University of Louisville Medical College, 1894; member of St. Louis Medical Society; aged 74; died April 6.

Rice, William, M.D., Kansas City, a graduate of Kansas City Medical College, 1897; honor member of Jackson County Medical Society; Fellow of the American Medical Association; aged 75; died April 10.

Ellis, Robert R., M.D., Kirksville, a graduate of National University of Arts and Sciences, St. Louis, 1917; member of Adair County Medical Society; Fellow of the American Medical Association; aged 55; died April 19.

Kenner, Edwin B., M.D., Wentzville, a graduate of Missouri Medical College, 1887; member of St. Charles County Medical Society; aged 83; died April 30.

Killoran, John B., M.D., Wright City, a graduate of St. Louis University School of Medicine, 1930; member of St. Charles County Medical Society; aged 49; died May 6.

Hogan, William G., M.D., Neck City, a graduate of University Medical College of Kansas City, 1903; member of Jasper County Medical Society; aged 68; died May 10.

Foster, Hal L., M.D., Kansas City, a graduate of New York University Medical College, 1882; Fellow of the American Medical Association; former secretary and honor member of Jackson County Medical Society; aged 88; died May 21.

MISCELLANY

ADDITIONAL PHYSICIANS RETURNED FROM MILITARY SERVICE

Outstate

Budke, Robert J., M.D., St. Charles.
Canty, Eugene J., M.D., St. Charles.
Kister, George E., M.D., St. Charles.
Towers, Orville W., M.D., St. Charles.

Jackson County

Culbertson, William F., M.D., St. Louis.
Gainey, Harold L., M.D., Kansas City.
Lowry, Chas. F., M.D., Kansas City.
McLeod, John, M.D., Kansas City.
Printz, Joseph H., M.D., Kansas City.
Schnedorf, Jerome G., M.D., Kansas City.
Wilson, Clifford C., M.D., Kansas City.

St. Louis

Beckette, Edmund, M.D., E. St. Louis, Ill.
Coates, Thos. A., M.D., St. Louis.
Dugan, Laurence J., M.D., St. Louis.
Edele, Eugene H., M.D., St. Louis.
Elliott, Robt. W., M.D., St. Louis.
Hannon, R. Emmet, M.D., St. Louis.
Joslyn, Harold, M.D., St. Louis.
Katz, Samuel, M.D., St. Louis.
Lansche, Elmer A., M.D., St. Louis.
Martin, Raymond T., M.D., St. Louis.
Mueller, Morris A., M.D., Brentwood.
Schwartzman, Bernard, M.D., St. Louis.
Smith, Milton, M.D., St. Louis.
Soule, Samuel D., M.D., St. Louis.
Taussig, Joseph, M.D., St. Louis.
Tjoflat, Oliver E., M.D., St. Louis.
Yamazaki, James N., M.D., Philadelphia.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for July and August, which all members are invited to attend, beginning at 1:00 p. m., follows:

July 3: Miscellaneous.
July 5: Gynecologic and Genitourinary.
July 10: Skin.
July 12: Breast.
July 17: Gastrointestinal.
July 19: Cervix.
July 24: Skin.
July 26: Head and Neck.
July 31: Bone and Lymphomas.
August 2: Gynecologic and Genitourinary.
August 7: Miscellaneous.
August 9: Breast.
August 14: Skin.
August 16: Cervix.
August 21: Gastrointestinal.
August 23: Head and Neck.
August 28: Skin.
August 30: Bone and Lymphomas.

NAVAL AIR RESERVE NEEDS DOCTORS FOR RESERVE TRAINING PROGRAM

The Naval Air Reserve Training Command is in need of doctors and dentists to man its stations during the postwar era. A doctor is qualified for such duty if he has had previous Naval or Marine experience.

This is active duty in a reserve status. Duty as a medical officer is available at NAS, Olathe and other reserve naval bases in the United States. The physician may choose for duty the station nearest his home. He will not be transferred unless he requests it and he will be released upon request at any time. The physician will return to active duty with the rank held at the time of separation. There are twenty-two Naval Reserve Stations throughout the United States in this program. It is felt that many doctors and dentists would like to avail themselves of this opportunity to continue their association with the Naval Reserve. This is a pleasant way for doctors unable to find suitable office space to continue practicing their profession until such time as normal conditions return. Flight surgeons especially are desired.

Those who have never been associated with the naval service may be commissioned with the rank of Lieutenant (junior grade), USNR.

All inquiries should be addressed to Naval Reserve Procurement Board, NAS, Olathe, Kansas.

LEGISLATION

SENATE BILL 1606

The following abstracted statement by Dr. Lowell S. Goin, Los Angeles, made before the Senate Committee hearing on Senate Bill 1606 is reprinted from *The Journal of the American Medical Association* that all members may have the opportunity of reading this comprehensive statement on the practice of medicine.

Statement of Dr. Lowell S. Goin of Los Angeles

DR. GOIN: I am Lowell S. Goin of Los Angeles. I am a practicing physician, and I happen to be president of the California Physicians Service, which is a voluntary health care plan of California, and I am also president of the College of Radiology and the Radiological Society of North America. I feel a great sympathy for the objectives which are hoped to be attained by the enactment of this bill, and I admire the humanitarianism of those who work so hard for their attainment. There is not the slightest doubt that the sudden and unpredictable imposition of heavy costs for medical care is frequently catastrophic. The physicians of America are well aware of this and, individually and collectively, have devoted much time and energy to an attempt to solve the problem. They believe that a solution is becoming apparent and that, given reasonable time, will be reached. They believe that the solution will be a better one than that currently proposed and that more medical care, and much better medical care, will be available to the American people if voluntary plans are allowed to evolve than if compulsory health insurance becomes law. If it be argued that no voluntary plan completely meets the need, I reply that that is true, but that evolution is not a rapid process and that, in a field in which there is little or no experience, haste must be made slowly. That this is likewise true in government controlled compulsory health insurance plans is shown by German and British experience. Title II of S. 1606 (for example) contains seventeen sections, but the German insurance law had (before the war) grown to more than 3,300 sections—a certain indication of the complexity of the problem and of the impossibility of composing a neat and effective solution.

The American Medical Association, speaking (I am confident) for the overwhelming majority of American physicians, opposes this legislation on five grounds:

1. The existence of a need for it has been established more by emotional statements than by logic and documented facts.

2. Even if the need were soundly established there is no experience to indicate that compulsory health insurance would benefit the public health, although there is some reason to believe that it would lower the health standards.

3. The costs are totally unpredictable, and no one has even a fair idea of what such a program would cost.

4. Medical care is not the sole factor involved in good health, and there are many things that could properly be done to benefit the public health before we embark on a program such as is proposed.

5. Voluntary health plans are more in keeping with the American tradition and will result in far better care being given to our people.

I should like now to discuss each of these five points in turn:

1. The social planner maintains that the state of health of the American public is deplorable and that medical neglect is a commonplace occurrence. The reason, they say, is the interposition of a financial barrier between the sick man and the doctor and argue that to remove this barrier will solve our health problem. Last fall the President of the United States in a message to Congress pointed with horror to the shocking figures of Selective Service rejections as an indication of the dire need for the enactment of compulsory health insurance. Is it of no significance that our mortality and morbidity rates are among the lowest in the world? Is it an accident that the United States now leads the world in medical education? Is our constantly increasing expectancy of life a reflection of our deplorable state of health? Do you know that the American death rate for diphtheria is about one half that of Great Britain or prewar Germany? Diphtheria, incidentally, is an excellent indicator, since it is one of the few diseases for which we have specific preventive and curative measures, and since, there being no secrets involved, the German and British physicians know as well how to treat it as do Americans.

So much has been made of the Selective Service rejection figures, the 5,000,000 4-F's, that they deserve a moment of special attention. Senator Pepper's interim report analyzes the 4,217,000 rejectees and breaks them down into groups. 444,800 were rejected as "manifestly disqualified." These include the armless and the legless, the totally blind, the totally deaf, the deaf mutes, and son on. What medical care could have made this group whole? How shall the amputated leg be restored, and who knows how to cure uptic disease? The modern concept is that mental disease is largely a constitutional inborn inability to cope with reality. What has medical care to do with it? 582,100 were rejected for mental deficiency. That is to say, they simply lacked the intelligence to become soldiers or sailors or, indeed, useful citizens of any sort. They are the idiots, the imbeciles and the low grade morons. Even a very slight knowledge of eugenics will persuade any one that this group does not constitute a medical care problem. Together, these three groups reach a total of 1,727,600, or more than one third of the rejectees. If they are now excluded, there remain 2,426,500, a little less than one half the famous 5,000,000. 320,000 of these were rejected for musculoskeletal defects. That is the congenitally short leg, the club foot, the withered arm, the congenitally dislocated hip, the absence of a half vertebra and the consequent crooked back. How, I ask, would medical care have restored these unfortunates to usefulness? 280,000 were rejected for syphilis. Treatment for syphilis is offered freely everywhere. As a matter of fact our statute books are simply loaded about syphilis prevention. I doubt that there is a community in which a syphilitic person may not receive treatment from a department of public health. One wonders how compulsory health insurance would have eliminated this group. 220,000 were re-

jected for hernia, probably for hernias so severe that the Army was unwilling to attempt repair. I mean by that that likely these were bad hernias because I did think the army repaired some. Hernia is the result of congenital defect in the inguinal or femoral canal, presumably due to a defect in the germ plasm. If such a defect exists, its bearer is likely to have a hernia, and medical care has nothing whatever to do with the occurrence of hernia. 160,000 were rejected for "eyes," by which I suppose is meant defective vision. Now it is true that some forms of blindness (ophthalmia neonatorum, for example) may be prevented by adequate medical care, and I think every state has a law requiring the instillation of silver into the eyes of the newborn, and it is my belief that ophthalmia neonatorum is practically an extinct disease, but I think it fair to assume that this group of 160,000 did not include the blind but those with visual errors too great to permit good or even fair vision. If one is born with an eyeball too long or too short or one that is not symmetrical, then one will have a refractive error and one will either wear glasses or not see very well, and medical care again has nothing at all to do with it. These groups total about 1,000,000, and the rejections which might be due to a lack of medical care are thus reduced to about 1,500,000 or about one third of the shocking figure of 5,000,000. Although it is quite problematic whether any program of medical care would have altered substantially this figure, we may rest on it, confident that the figures fall a good bit short of establishing an urgent need for the enactment of compulsory health insurance.

2. Even if we had had thoroughly established the need for some better plan for medical care, it would be proper to inquire whether a proposed plan offered some reasonable probability of improving public health. Since compulsory health insurance has existed in various parts of the world for fairly long periods, it should be possible to examine the experience in those areas and, by analogy, establish the probable effect of our plans on our own health. I think it quite interesting to note that compulsory health insurance has been in effect in San Francisco for some years as regards the municipal employees. The insured are served by the same physicians and in the same hospitals as are non-insured persons. In spite of the fact that no financial barrier exists between an insured person and a physician, the incidence of ruptured appendix is higher among the insured than among the uninsured. In this instance, at least, the removal of the financial barrier, so abhorred of the social planner, did not seem to benefit the insured public. The morbidity and mortality rates are higher in nearly all insurance countries than in our own. May I quote to you from Dr. Nathan Sinai's book "The War of Health Insurance"? Remember that he is a most able and ardent advocate of compulsory health insurance. He says that "Contrary to all predictions, the most startling thing about the vital statistics of insurance countries is the steady and fairly rapid rate of increase in the number of days the average person is sick annually and the continuously increasing duration of such sickness. Various studies in the United States (he says) seem to show that the average recorded sickness per individual is from seven to nine days per year. It is nearly twice that amount among the insured population of Great Britain and Germany and has practically doubled in both countries since the installation of insurance." This seems to me a rather sound argument against compulsory health insurance, although Dr. Sinai probably did not intend it thus. To clinch the matter, he adds "It seems to be a safe conclusion that insurance has certainly not reduced the amount of sickness." This puzzles me a little, since I have naively assumed that the intent was to reduce the amount of sickness and to improve health. I believe that the evidence in hand warrants the flat statement that compulsory health insurance will not benefit the public health.

3. When compulsory health insurance was proposed in California a year ago last January, no one appeared with any sound idea as to its cost. The guesses varied between $20 per person per year and $80 per person per year. Most thought that $40 was a fair figure. I think it significant that costs are nowhere discussed in the present bill, the Surgeon General of the Public Health Service being given a blank check. At $40 per person per year the program would cost 4,000 million dollars, and no one really knows whether this amount would suffice. Experience elsewhere indicates that there is needed at least one employe (not including those actually delivering medical service) for each hundred insured persons (Crownhard, J. G.: "Sickness Insurance in Europe," 1938, p. 25). On this basis we would need to increase the government payroll by about 1.5 million employes. And yet, to pay this vast army, to pay the doctors, to pay for hospitalization and for the other benefits offered, no sums are named, no appropriations are made and no limits are set. This is a rich country, but no wealth is unlimited.

4. A sort of current custom is to use the terms "medical care" and "health" as if they were interchangeable —as though one were a synonym of the other. As a matter of fact, medical care is only a small part of the health problem—not even the most important part. Health consists largely in not being sick; medical care consists largely in an attempt to cure or alleviate disease. Nearly all—perhaps all—of the health legislation which has been proposed from time to time has been written by social planners, seldom, if ever, in consultation with physicians. Consequently nearly all of its contains much wishful thinking and not too much reality. Too much confidence is placed in preventive medicine, too much earnest belief that periodic health examinations will prevent disease, and all the legislation evidences a complete failure to understand that preventive medicine simply has not yet attained the goals wished for. To cite a few of the problems: How shall heart disease (except that due to rheumatic fever) be prevented? What sort of health examination will be efficient in its control? How shall we prevent, or even recognize, early brain tumors? Shall every one with a headache have encephalographic or ventriculographic studies? Shall we do gastrointestinal x-ray studies on every one with indigestion and, if so, where shall we obtain the skilled personnel? How are bone tumors prevented, and what periodic examination makes one aware of the pneumonia of next week? Medical care is, and will for a long time continue to be, the care of the sick, and this I repeat is only a fraction of the health problem. Some other fractions to which government might well turn its attention are sanitation, hygiene, health education, adequate diet, good housing, adequate clothing, working conditions and "patent medicine" control. And there are many others. If government is sincerely interested in the health of the citizen, why should it not suppress "patent medicine" advertising? Why should it not regulate the cults and require that all who wish to practice the healing arts pass the same tests? Why should it not control radio publicity of nostrums, vitamins and the like? This current legislation is attacking only a small segment of the health problem, and even if it were to accomplish all that its proponents claim it still would not solve our health problems.

5. Voluntary health plans will, if given the opportunity, do the job, and do it better than government controlled plans can do. These plans, which already include a very large number of persons, are in accord with our traditional emphasis on personal responsibility, prudence, foresight and thrift. They have an American dignity which is lacking in the regimentation of compulsory health insurance. They can be and are more economically administered, they can and do give

better medical care, and they will be and are supported by thousands of physicians who are bitterly and unalterably opposed to government controlled medicine. In California we have made a good start. Our California Physicians Service offers medical care at modest costs. A quarter of a million of our people have availed themselves of it, and appear to be quite satisfied with it. The Farm Security Administration had a medical care program for the rural indigent. California Physicians Service took it over and gave better medical care for less money and to the satisfaction of those giving and receiving the care. California Physicians Service has just signed a contract with the State Grange providing medical care for nearly 100,000 farm people. These activities, which are duplicated in most of the states, are indications of how voluntary plans can meet the challenge—how they are meeting it, and how they will continue to do so with a steady and healthy growth if they are not crushed by the monster of bureaucratic control.

SOCIETY PROCEEDINGS

Central Missouri Clinical Society

The first postwar meeting of the Central Missouri Clinical Society was held in Columbia on May 16, sponsored by the Boone County Medical Society.

Dr. Claude R. Bruner, Columbia, was elected president. A program followed consisting of a presentation by Col. Eugene Bricker, M.C., former Senior Consultant in Plastic Surgery, E.T.O., on the subject "Application of Plastic Surgery to War Casualties in the Field," and official medical movies of Saipan operations presented through the courtesy of the United States Navy.

8TH COUNCILOR DISTRICT MEETING

WALLIS SMITH, SPRINGFIELD, COUNCILOR

The first of the Councilor District meetings during 1946 was held in Springfield, Mo., at the Colonial Hotel on Thursday, June 6. Dr. Wallis Smith, Councilor of the 8th District, arranged the meeting. Members of the 8th and 9th Districts were invited.

The meeting, attended by over 100 physicians, was a great success. Many guests, including Councilors Koch, 4th District, Virden, 7th District, Bohrer, 9th District, and past presidents Bristow, Denny, Kerr and Breuer were present.

The program follows: "The Diagnosis of Syphilis," Leland B. Hanchett, M.D., Chief Medical Officer, Midwestern Medical Center, St. Louis; "The Treatment of Syphilis," Arthur W. Neilson, M.D., St. Louis, Consultant Syphilologist, U.S.P.H.S., "The Treatment of Gonorrhea," W. S. Sewell, M.D., Springfield; "Complications Arising in and Following the Third State of Labor," E. Lee Dorsett, M.D., St. Louis, with discussion by Joseph D. James, M.D., Springfield; "How You Can Help Missouri Medical Service," Carl F. Vohs, M.D., St. Louis, President, Missouri Medical Service; "How You Can Help Blue Cross Hospitalization," Mr. R. G. Metcalfe, St. Louis, Field Representative, St. Louis Blue Cross Plan, with discussion by Mr. T. R. O'Brien, St. Louis, Executive Secretary, Missouri State Medical Association; "The Program of the Missouri State Medical Association," Howard B. Goodrich, Hannibal, President, Missouri State Medical Association, with discussion by Morris B. Simpson, M.D., Kansas City, President-Elect, Missouri State Medical Association; "Care of the Veteran," J. W. Thompson, M.D., St. Louis, Chairman of the Council of the Missouri State Medical Association, with discussion by Daniel L. Yancey, M.D., Springfield.

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

South Central Counties Medical Society

The South Central Counties Medical Society met at the Elliott Hotel, Mountain Grove, for a dinner meeting on April 19. The following members and guests were present: Drs. C. F. Callihan, Willow Springs; L. T. VanNoy, Norwood; E. C. Bohrer and Rollin H. Smith, West Plains; R. W. Denney, R. A. Ryan, H. G. Frame and A. C. Ames, Mountain Grove; Garrett Hogg, Jr., and L. M. Edens, Cabool; J. A. Fuson, Mansfield; Leslie Randall, Licking; R. T. Harsh, Houston; Wm. J. Stewart, Crippled Children's Service, Columbia; and Mr. Raymond McIntyre, St. Louis.

Dr. C. T. Callihan, Willow Springs, vice president, called the meeting to order. The minutes of the last meeting were approved and a financial statement was presented.

Dr. R. T. Harsh, Houston, was introduced and was made a member of the Society.

Dr. Wm. J. Stewart, Columbia, gave an interesting and profitable talk on "Acute Osteomyelitis" and pointed out the great improvement of penicillin and the sulfa drugs over former methods of treatment.

Mr. Raymond McIntyre spoke on the work of the Association and Missouri Medical Service and Blue Cross. He explained the law which takes effect July 1 requiring the use of "M. D." with any professional use of the prefix "Doctor" or "Dr."

After an expression of appreciation to the speakers, the meeting adjourned to meet in Cabool on May 17.

Meeting of May 17

The South Central Counties Medical Society held a dinner meeting at the El Patio Hotel, Cabool, on May 17. The following members and visitors were present: Drs. R. A. Ryan, H. F. Frame, R. W. Denny and A. C. Ames, Mountain Grove; L. T. VanNoy, Norwood; J. A. Fuson, Mansfield; J. R. Mott, Hartville; L. M. Edens and Garrett Hogg, Cabool; J. R. Womack, Houston; H. L. Reed and Leslie Randall, Licking; C. T. Callihan, Willow Springs; E. C. Bohrer and Rollin H. Smith, West Plains; and W. S. Sewell and R. T. Elkins, Springfield.

Dr. Mott, president, called the meeting to order, and the minutes of the last meeting were approved as read.

Dr. Elkins spoke on several common proctologic conditions, and the treatment by simple means that can be applied by the general practitioner in his office or the home of the patient.

Dr. Sewell spoke on the enlarged prostate of elderly men and stressed that it is not a result of gonorrhea, nor does advanced age preclude an operation if other conditions are favorable; that in operating, the patient should not be kept in bed any longer than absolutely necessary.

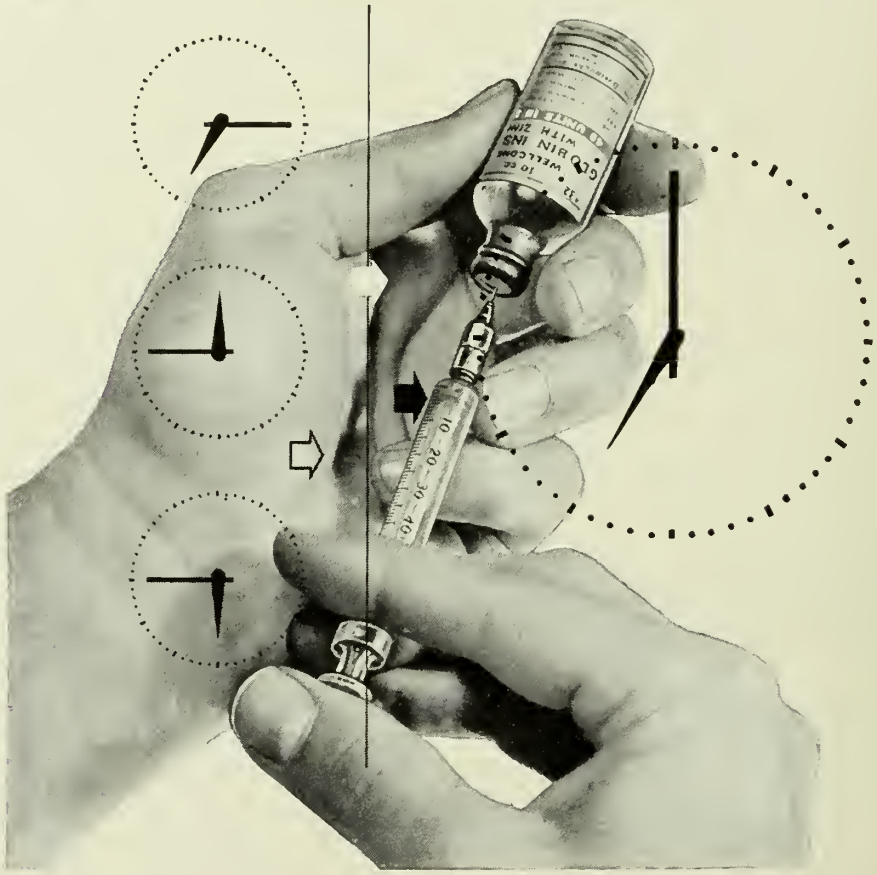
A vote of thanks and appreciation was given the speakers, and the meeting adjourned to meet in Mountain Grove on June 21.

A. C. AMES, M.D., Secretary.

THREE MILLION BABIES BORN IN U. S. DURING 1945

The more than three million babies born in the United States in 1945 reflect the continuing increase in the birth rate for the past several years. It is estimated that between 1933 and 1943 the birth rate increased 30 per cent, according to an editorial in the May 18 issue of *The Journal of the American Medical Association*. The editorial says: This does not mean that the average American family is growing larger. The principal explanation for the increase appears to be the rise in the marriage rate and the increase of one and two child families. From 1941 to 1943 the birth rate for all women in the reproductive age increased 22 per cent.

How to shift to 'WELLCOME' GLOBIN INSULIN from 3 injections to 1 a day...



A relatively simple procedure can make the unique advantages of intermediate-acting 'Wellcome' Globin Insulin with Zinc available to patients on regular insulin (crystalline or amorphous). Three steps can change the patient from two or more injections daily to one injection a day.

STEP 1 The initial daily dose of 'Wellcome' Globin Insulin with Zinc should be approximately 2/3 the total number of units of regular insulin previously given daily.

STEP 2 Adjust the carbohydrate distribution of the diet as required for the individual patient. This adjustment will be based on fractional urinalyses and blood sugar determination, if the latter are available.

STEP 3 Increase or otherwise adjust the daily dose of Globin Insulin as required. This adjustment is made in conjunction with step 2. Frequently, the final dosage of Globin Insulin will be not more than 4/5 the total units of regular insulin previously required daily.

Available in 40 and 80 units to the cc., vials of 10 cc. *'Wellcome' Trademark Registered.*

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

MISSOURI STATE MEDICAL ASSOCIATION

Eighty-Eighth Annual Session

St, Louis

March 24, 25, 26, 1946

MINUTES OF THE HOUSE OF DELEGATES

Crystal Room, Jefferson Hotel

Sunday Session

The first meeting of the House of Delegates of the Eighty-eighth Annual Session of the Missouri State Medical Association was called to order at 2:00 p. m. in the Crystal Room, Jefferson Hotel, St. Louis, with Dr. A. S. Bristow, Princeton, President, presiding.

A quorum was reported present.

Officers, Councilors and Delegates who were present during the Annual Session follow:

Officers

President....A. S. Bristow, Princeton
Vice President....F. T. H'Doubler, Springfield
Treasurer....C. E. Hyndman, St. Louis
Secretary-Editor....R. L. Thompson, St. Louis

Councilors

1st District....H. E. Petersen, St. Joseph
2nd District....H. B. Goodrich, Hannibal
3rd District....J. W. Thompson, St. Louis
4th District....R. B. Denny, Creve Coeur
5th District....W. A. Bloom, Fayette
6th District....R. W. Kennedy, Marshall
7th District....H. L. Mantz, Kansas City
8th District....Wallis Smith, Springfield
9th District....E. C. Bohrer, West Plains
10th District....Paul Baldwin, Kennett

Delegates

Audrain....W. K. McCall, Laddonia
Barry-Lawrence-Stone....Fred Hargrove, Monett
Barry-Lawrence-Stone....Kenneth Glover, Mount Vernon
Barry-Lawrence-Stone....H. L. Kerr, Crane
Benton....James A. Logan, Warsaw
Boone....A. R. McComas, Sturgeon
Buchanan....J. I. Byrne, St. Joseph
Buchanan....Cabray Wortley, St. Joseph
Buchanan....H. E. Petersen, St. Joseph
Butler....F. L. Kneibert, Poplar Bluff
Caldwell-Livingston....H. S. Dowell, Chillicothe
Caldwell-Livingston....G. S. Dowell, Braymer
Callaway....George F. Wood, Fulton
Cape Girardeau....Frank Hall, Cape Girardeau
Carter-Shannon....T. W. Cotton, Van Buren
Cass....David S. Long, Harrisonville
Chariton....G. W. Hawkins, Salisbury
Cole....John W. McHaney, Jefferson City
Cooper....A. C. H. Van Ravenswaay, Boonville
Dallas-Hickory-Polk....G. C. Plummer, Buffalo
Dent....G. E. Joseph, Salem
Dunklin....E. L. Spence, Kennett
Franklin....Frank G. Mays, Washington
Greene....W. S. Sewell, Springfield
Greene....F. T. H'Doubler, Springfield
Greene....T. Enoch Ferrell, Springfield
Henry....James O. Smith, Clinton
Howard....Wm. J. Shaw, Fayette
Howell-Oregon-Texas-Wright-Douglas....C. F. Callihan, Willow Springs
Howell-Oregon-Texas-Wright-Douglas....L. M. Edens, Cabool
Howell-Oregon-Texas-Wright-Douglas....R. A. Ryan, Mountain Grove
Jackson....B. Landis Elliott, Kansas City
Jackson....H. L. Dwyer, Kansas City
Jackson....H. M. Gilkey, Kansas City
Jackson....C. Edgar Virden, Kansas City
Jackson....Vincent T. Williams, Kansas City
Jackson....A. N. Altringer, Kansas City
Jackson....A. E. Eubank, Kansas City
Jackson....R. Lee Hoffman, Kansas City
Jackson....J. H. Jennett, Kansas City
Jackson....Fred B. Kyger, Kansas City
Jackson....Ralph E. Duncan, Kansas City
Jackson....John A. Growdon, Kansas City
Jasper....B. E. DeTar, Joplin
Jasper....R. M. James, Joplin
Jefferson....James J. Commerford, Crystal City
Johnson....O. H. Damron, Warrensburg
Laclede....Paul A. Jenkins, Lebanon
Lafayette....W. E. Martin, Odessa
Lewis-Clark-Scotland....J. R. Bridges, Kahoka
Lewis-Clark-Scotland....P. W. Jennings, Canton
Marion-Ralls....W. F. Francka, Hannibal
Miller....W. L. Allee, Eldon
Moniteau....J. P. Burke, Jr., California
Montgomery....E. J. T. Andersen, Montgomery City
Morgan....J. L. Washburn, Versailles
New Madrid....J. J. Killion, Portageville
North Central—
Adair....J. J. Wimp, Kirksville
Knox....F. E. Luman, Edina
Pemiscot....J. B. Luten, Caruthersville
Perry....Oscar A. Carron, Perryville
Pettis....A. J. Campbell, Sedalia
Phelps-Crawford....R. E. Breuer, Newberg
Phelps-Crawford....A. H. Horne, Steelville
Pike....Charles P. Lewellen, Louisiana
Pulaski....R. W. Reed, Richland
Randolph-Monroe....F. L. McCormick, Moberly
Randolph-Monroe....F. A. Barnett, Paris
St. Francois-Iron-Madison-Washington-Reynolds....John W. Hunt, Leadwood
St. Francois-Iron-Madison-Washington-Reynolds....Ben Bull, Ironton
St. Francois-Iron-Madison-Washington-Reynolds....W. H. Barron, Fredericktown
St. Francois-Iron-Madison-Washington-Reynolds....J. P. Yeargain, Irondale
St. Francois-Iron-Madison-Washington-Reynolds....A. F. Bugg, Ellington
Ste. Genevieve....A. E. Sexauer, Ste. Genevieve
St. Louis....E. R. Brown, University City
St. Louis....O. P. Hampton, University City
St. Louis....Roy Walther, Jr., Overland
St. Louis....E. B. Waters, Kirkwood
St. Louis City....Oliver Abel, Jr., St. Louis
St. Louis City....Carl J. Althaus, St. Louis
St. Louis City....George A. Carroll, St. Louis
St. Louis City....Armand D. Fries, St. Louis
St. Louis City....Andrew C. Henske, St. Louis
St. Louis City....R. Emmet Kane, St. Louis
St. Louis City....Charles L. Klenk, St. Louis
St. Louis City....William B. Kountz, St. Louis
St. Louis City....Neil S. Moore, St. Louis
St. Louis City....F. G. Pernoud, St. Louis
St. Louis City....M. J. Pulliam, St. Louis
St. Louis City....A. J. Raemdonck, St. Louis
St. Louis City....Raoul L. Ramos, St. Louis
St. Louis City....Robert E. Schlueter, St. Louis
St. Louis City....A. R. Shreffler, St. Louis
St. Louis City....A. J. Signorelli, St. Louis

St. Louis City.....Edgar W. Spinzig, St. Louis
St. Louis City.....Henry P. Thym, St. Louis
St. Louis City.....Paul C. Schnoebelen, St. Louis
St. Louis City.....V. V. Wood, St. Louis
St. Louis City.....William E. Leighton, St. Louis
St. Louis City.....E. P. Buddy, St. Louis
Saline.....George A. Aiken, Marshall
Scott.....W. O. Finney, Chaffee
Vernon-Cedar.....Ralf Hanks, Nevada
Webster.....C. R. Macdonnell, Marshfield

The Speaker of the House, Dr. E. J. Schisler, St. Louis, being absent because of the recent death of his wife, and the Vice Speaker having moved from the state, the President asked the pleasure of the House concerning the election of a Speaker pro tem.

Upon motion of Dr. Howard B. Goodrich, Hannibal, Dr. W. F. Francka, Hannibal, former Speaker of the House, was elected Speaker pro tem.

Upon motion of Dr. R. E. Schlueter, St. Louis, the House of Delegates expressed its sympathy to Dr. Schisler.

The reading of the minutes of the previous meeting was dispensed with and they were adopted as printed in The Journal.

The Speaker pro tem appointed the following Reference Committees which had been selected by the Speaker:

Reference Committee on Amendments to the Constitution and By-Laws

W. L. Allee, Eldon, Chairman.
B. Landis Elliott, Kansas City.
W. E. Leighton, St. Louis.

Reference Committee on Resolutions

Frank W. Hall, Cape Girardeau, Chairman.
J. I. Byrne, St. Joseph.
E. R. Brown, University City.

Reference Committee on Miscellaneous Affairs

Oliver Abel, Jr., St. Louis, Chairman.
Harry M. Gilkey, Kansas City.
T. E. Ferrell, Springfield.

Reference Committee on Medical Education and Public Welfare

Fred B. Kyger, Kansas City, Chairman.
W. S. Sewell, Springfield.
Hugh L. Dwyer, Kansas City.

The President, Dr. A. S. Bristow, Princeton, read his message and recommendations as follow:

PRESIDENT'S MESSAGE AND RECOMMENDATIONS

If I seem just a bit downcast this afternoon, I trust you will understand fully, for with the close of this hour comes the full realization that my tenure of office as your President comes to a close and that never again shall I have the opportunity of addressing this House of Delegates in my present capacity.

The honor and privilege, however, which has been mine during the last two years in serving you more than assuages any gloom which may be evidenced.

May I take the opportunity to express my sincere thanks and deepest praise to the elected and appointed officers of the Association who have given so unstintingly of their time and talents that a solution of our various and sundry problems might be attained. By these I refer to the Vice Presidents, members of the Council, chairmen and members of the various committees, the Secretary and Treasurer and, last but far from least, the individual members of the office force, and our public relations counsellor, Thomas W. Parry, and his associates.

We have been most fortunate in the selection of our Executive Secretary, Thomas R. O'Brien. To this office he has brought unusual foresight, a high degree of industry, great interest and an ability of solution which have contributed greatly to such achievements as we have been able to realize.

Commendations should also be extended to Dr. Robert Mueller of St. Louis, acting President of the Association last year during the absence of the elected President, Dr. Curtis H. Lohr. In spite of the vast amount of time which Dr. Mueller had to spend as State Chairman of Procurement and Assignment, he always found extra time to devote to the Association. His help and understanding were invaluable aids.

I have been saddened and somewhat alarmed at the gross indifference and lack of understanding of some of our members toward the many unsolved problems which face us. This is understandable to some extent when the age of our rural practitioners is taken into consideration. Also, it is not conducive to medical thought stimulation to attend meetings of county medical societies where only one, two or, perhaps, three are present, and those overburdened with work, too tired to do much outside reading or to attend schools of instruction for their knowledge and enlightenment.

Much of this we hope may be eliminated during the next year. With the return of Mr. McIntyre from the service and his assumption as Field Secretary, many of these problems will have a solution.

As to the problems of medicine today, they are national as well as state and county level problems. The national outlook we shall take up tomorrow night. Concerning Missouri problems, we find still many of our most urgent ones unsolved. They are characterized by some of our editorial writers as a "muddle." I very much agree.

I still stand squarely behind the five-point program as outlined by this House of Delegates two years ago in Kansas City. These are: full retention of Blue Cross Hospitalization; creation of a prepaid medical and surgical care plan on a state basis; extension of the University of Missouri Medical School to a full four years' status with establishment of the last two years in Kansas City; extension of rural hospitals; subsidization, if necessary, of medical students with the possibility of inclusion of some clause in their contract that they return to the rural county from which they came for stipulated terms of private practice in that area.

Through the combined agencies of Blue Cross, there are now enrolled in the State of Missouri 800,000 people. Offering a plan of stipulated coverage at a price which the public can well afford, we have a plan which has succeeded beyond the hope of the original sponsors. It will continue to extend and expand just so far as doctors assume responsibility for its extension.

Missouri Medical Service, a nonprofit organization, was organized by the doctors of the State of Missouri with the aid of interested laymen. In its first nine months of existence, 27,000 persons have subscribed for its benefits. New members are enrolling at the rate of approximately 3,000 monthly. There can be no more convincing proof that this voluntary plan of insurance against the financial consequences of serious injury or sickness meets an urgent demand of Missouri families. It brings a new opportunity for security to the people of this state.

It is going to be extended to fit the national picture. Remember, if you will, it is medicine's own answer to insistent demands that medical care be made more broadly available in times of emergency.

Without undue financial sacrifice, the doctors of this state, through their State Association, worked out the details of this program and put it into operation. It definitely preserves the patient-doctor relationship; it imposes no restrictions on either. It is and will do the job. Persons may enroll through profession, trade, business, union or farm groups. All qualified physicians of the state may participate. Have you enrolled

as a participating member? I understand we now have 70 per cent of our doctors enrolled.

As to the extension of the University of Missouri Medical School, this much mooted question has passed the House of Representatives and it now reposes in the Committee on Education of the Missouri Senate.

Several counties have already floated bond issues for the erection of county hospitals. Other plans are in the making. To those counties who propose to enter this field of activity, please contact the newly created committee appointed by the Council, the Committee on Rural Medical Service, Dr. R. W. Kennedy, Marshall, Chairman, to assist in these plans. Also procure Public Health Bulletin No.292, Health Service Areas; Requirements for General Hospitals and Health Centers, Federal Security Agency, United States Public Health Service.

As to subsidization of medical students, it was proposed and accepted two years ago that counties themselves, through interested channels, either establish fellowships in medicine to medical students or interest philanthropic agencies of the county in doing, stipulating that they return to their county or subsidization for a stated period of time that they may fill the ranks of general practice for rural areas. This is a worthy idea which we should expand.

April of 1944 found our Council entering the field of public relations, July of 1944 the time of activating it, a field yet untried in the annuals of medicine in this state. After long, lengthy and intricate discussions, we employed outside counsel. Why? It was fully recognized that doctors as a whole, being bound by medical concepts of conduct, were reticent to tell of their own aims and objectives, not so much their problems.

Again, few fields of approach are open to physicians, especially in smaller communities. The occasional high school speech, a program under the various service clubs, perhaps the Chamber of Commerce, and we have exhausted our potentialities. These were usually not intended to sway opinion or to enlighten mankind, just the needs of an outside agency for this type of endeavor.

I must confess I was not altogether sold on the proposition until I had the privilege of attending a called meeting of the presidents and secretaries of state medical associations in Chicago, where I found the A.M.A. has come forth with the employment of outside counsel in a public relations effort.

Never before in the history of medicine has there been more need for intelligent planning and professional execution of public relation policies. We, as physicians, need not only to interpret to the people our policies, our plans and accomplishments but, likewise, to inform ourselves of the hopes and desires and the attitudes of the people toward us.

We as a State Association, then, have been carrying on a state-wide program in public relations for almost two years. You will hear more during this session, a detailed report of these activities. The results we are accomplishing are very satisfactory; through the medium of the written and spoken word, we are informing the people of these policies. There is, of course, still much to be done. During the coming year we aim to broaden greatly the scope of public relation activities, to concentrate many of them at the county level.

I sincerely urge the cooperation of both county and urban societies in activating the local projects which will be recommended from time to time by your Executive Secretary and public relations counsel. I urge you to seek the guidance of our executive officers whenever there arises in your community a situation of public concern, the proper handling of which would build favorable opinion toward our profession.

The Community Health League was organized, as you know, several years ago, and it has done more in an educational way than any other single state sponsorship of ours.

It is recommended that every county in this state attempting to build hospitals or extend their activities, establish a local County Health League of their own. One doctor, one dentist, a minister, county agent, a druggist, representative of the women's organizations, one from business, one from agricultural pursuits and, above all, do not forget the social agencies. This body could organize, sponsor and activate such projects as your county hospital or health center, those attractions which are so vital to your community in giving an incentive to your M.D.'s to return to your county.

To the returning servicemen, we welcome you most sincerely, and, with our thanks for that remarkable part which you have all played in placing the deeds of American medicine above any yet achieved by any country. Yours has been a great sacrifice and we who have stayed behind and carried on as best we could now are heartened. We take on new life and vigor. We know that our ministrations to humanity shall receive new strength from the enthusiasm of your youth, the injection of new and better methods. We are deeply thankful for your return and it is our sincerest wish that you will all stride forward with us in the building of better medicine, a better world, a world at peace.

In closing I should like to add this following paragraph. By so doing I should be indulging in an expression of false modesty if I should attempt to detract from or minimize the office of President which you conferred upon me two years ago. On the other hand, I should fall short of honesty and thoughtfulness of speech if I failed to realize and to acknowledge that our organization, like all others, may succeed and the efforts of the officers may receive force and effect only through the loyal and unselfish support and effort of the individual.

As was mentioned before, medicine in rural Missouri is at the lowest ebb ever recorded as regards working, organizational standards. The reasons already have been stated. It then seems a most opportune time to me for the urban societies, those with high organizational activities, to give the same time unselfishly, cooperatively to a solution of our state problems as they give to a solution of their own. If this is done in an unselfish spirit I fear not what lies ahead of us in 1946. I am sure the medical profession of this state will enter the work of the year with renewed enthusiasm based upon tasks well done in the past and with confidence in its own ability to meet the many decisions that may arise.

Through this unity of spirit we trust this year may go down in history as one to remember; one we may look back upon in another twelve months with pride toward the objectives attained.

Upon motion, duly seconded, the message was received.

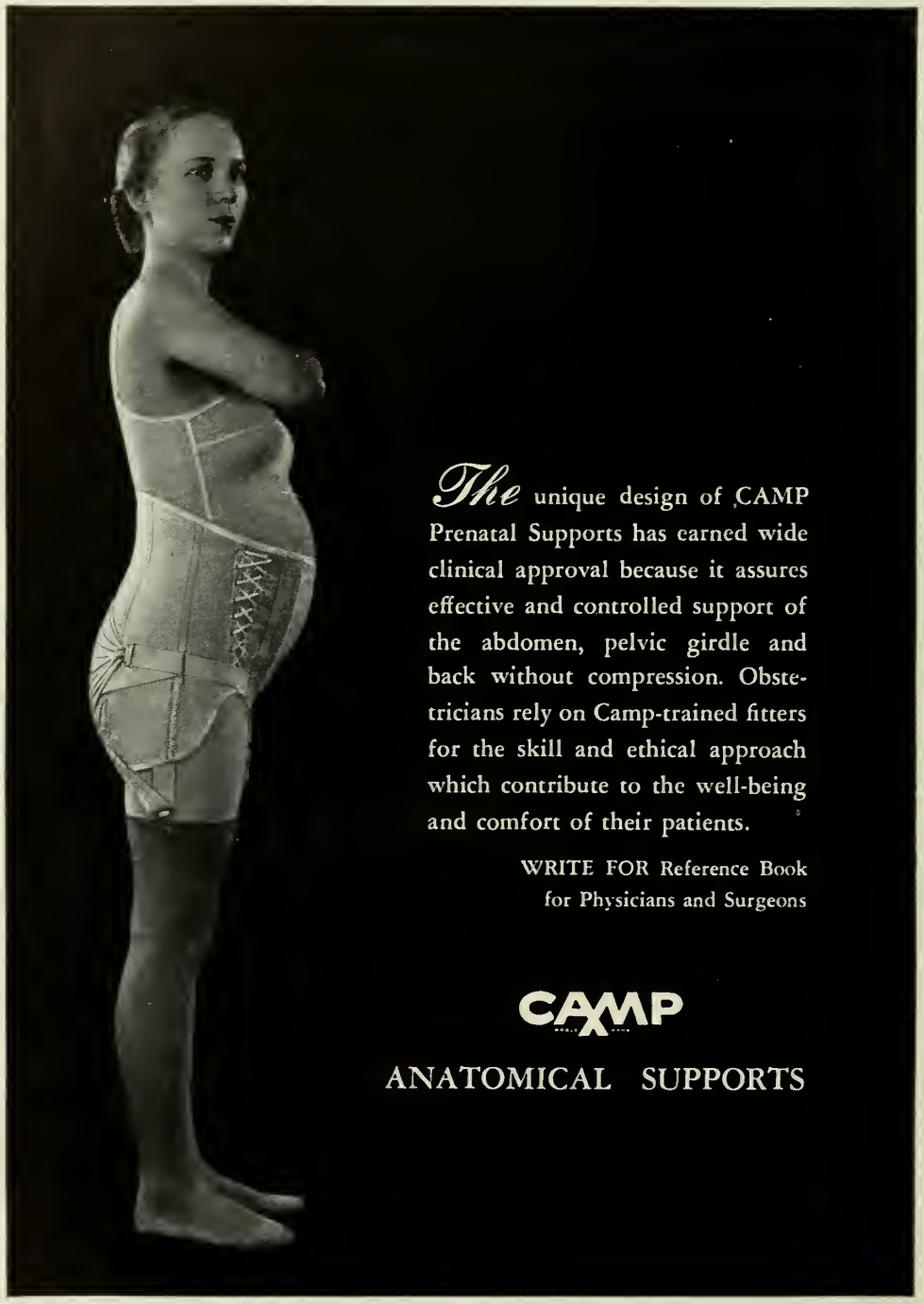
Dr. J. W. Thompson, St. Louis, Chairman of the General Committee on Arrangements, and Dr. E. P. Buddy, St. Louis, Chairman of the Local Committee on Arrangements, made announcements concerning the Annual Session.

The report of the Executive Secretary follows:

REPORT OF THE EXECUTIVE SECRETARY

In this the first report of your Executive Secretary since his appointment to that office, June 1, 1944, he wishes to pay as sincere tribute as possible to a most loyal and intelligent office staff, and especially to Miss Helen Penn, for their cooperation and long hours of work spent in the interest of their employers. All of them, including your Executive Secretary, take considerable pride, to say the least, in attempting to carry out the various tasks and duties assigned to them.

Considerable time has been devoted to the Annual Session. The Committee on Scientific Work has arranged a most excellent program. Sixty-nine commercial exhibits will be shown which will afford an unusual opportunity for physicians to secure knowledge



S. H. CAMP AND COMPANY • Jackson, Michigan

World's Largest Manufacturers of Scientific Supports

Offices in New York • Chicago • Windsor, Ontario • London, England

of the newer pharmaceutical drugs and apparatus now in use. These exhibits go a long way toward carrying the expense of the Annual Session and since it is the hope of the officers and members of the Committee on Scientific Work to arrange scientific programs which will be of increasing value to the busy physicians who attend, it is our hope that you will view the exhibits.

During the year 1945, the paper shortage continued, thus THE JOURNAL was smaller than in former years. It was decided as a result to send out a periodic Secretary's News Letter which would contain information of interest to the county presidents and secretaries. This News Letter will be continued although it will soon be possible to bring THE JOURNAL up to the level of previous years.

Although meetings of county societies were necessarily curtailed because of rationing and travel restrictions, the Association office was represented at many of these meetings as well as at national conferences held in Chicago of various A. M. A. organizations.

The Committee on Nominations which is appointed by the President from the House of Delegates must submit nominations for the following offices:

Three Vice Presidents to fill the vacancies created by the expirations of the terms of Drs. Robert Mueller, St. Louis; F. T. H'Doubler, Springfield; W. L. Brandon, Poplar Bluff. Four Delegates and corresponding Alternates to the American Medical Association to fill the vacancies created by the expiration of the terms of Dr. A. R. McComas, Sturgeon, Alternate, Dr. M. Pinson Neal, Columbia, and Dr. W. L. Allee, Eldon, Alternate, Dr. W. A. Bloom, Fayette, for two year terms; and Dr. Robert Schlueter, St. Louis, Alternate, Dr. J. Frank Jolley, Mexico, and Dr. James R. McVay, Kansas City, Alternate, Dr. H. L. Kerr, Crane, for one year terms.

The terms (two years) of the Councilors of the odd numbered Districts expire this year: Dr. H. E. Petersen, First District; Dr. J. W. Thompson, Third District; Dr. W. A. Bloom, Fifth District; Dr. H. L. Mantz, Seventh District; Dr. E. C. Bohrer, Ninth District. The terms of the Councilors of the even numbered Districts expired in 1945. Because of the necessity of cancelling the 1945 session, the Council thought it best to follow Article IX, Section 2, of the Constitution: "All of the officers shall serve until their successors are elected and installed" and further "the delegates present from each Councilor District shall meet on the morning of the third day of the Annual Session and elect the Councilor from that district." After consideration of the constitutional points and discussion of all the angles involved, the Council voted that all officers, including Councilors, remain in office until their successors could be elected; provided, however, that the President-Elect, Dr. A. S. Bristow, Princeton, be installed at the next meeting of the Council since Dr. Bristow had been elected by the delegates. Therefore, Councilors of even numbered districts will be elected and will serve for a period of one year, the first year of the term having already been served.

In order to return to the method in vogue before the war, it would be logical to elect and install the new President and also elect a President-Elect who could then be installed at the following Session of the Association.

The Session will convene for two and a half days, beginning Sunday afternoon and closing Tuesday evening. The first meeting of the House of Delegates will be on Sunday, March 24. There will be no recessed session of the House and all new business will be presented at the first session of the House. The second session of the House will be held at 2:00 p. m. Tuesday, March 26.

The Annual Banquet in honor of Past Presidents will be held Monday, March 25, in the Gold Room, Hotel Jefferson. Hon. Phil M. Donnelly, Governor of Missouri, will address the gathering. It is hoped that all members, members of the Woman's Auxiliary and their guests will attend.

Status of Membership

Number of members, January 1, 1945	3,300
New members	94
Reinstated	15
Total	3,393
Dropped	67
Deceased	59
Transferred	16
Total January 1, 1946	3,251

Of this total 298 are Honor Members.

T. R. O'BRIEN, Executive Secretary.

MR. T. R. O'BRIEN, ST. LOUIS, Executive Secretary, reporting further, said: The following members are eligible for Affiliate Fellowship in the American Medical Association: Dr. John E. Evans, Kansas City; Dr. Marvin B. Ketron, Kansas City; Dr. Harry S. Prentiss, Kansas City; Dr. Joseph S. Snider, Kansas City; Dr. John W. Dawson, Eldorado Springs; Dr. Clifford E. Henry, Kirksville; Dr. W. B. Wasson, Nixa; Dr. J. Frank Harrison, Mexico.

Upon motion, duly seconded, the report was accepted.

The report of the Treasurer, Dr. C. E. Hyndman, St. Louis, follows:

REPORT OF THE TREASURER

DR. C. E. HYNDMAN: Because the Annual Session is earlier this year, it was impossible to get the financial statement in the preceding issue of THE JOURNAL. Therefore reprints have been placed in your hands and the statement will appear in the April issue of THE JOURNAL.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Scientific Work, Dr. Harry C. Lapp, Kansas City, Chairman, follows:

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The report of the Committee on Scientific Work is embodied in the program which appeared in the March issue of THE JOURNAL. The Committee feels that a practical and valuable program has been arranged and it is hoped that members will gain from the presentations at the session.

HARRY C. LAPP, Chairman,
NATHAN A. WOMACK,
RALPH L. THOMPSON.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Publication, Dr. R. L. Thompson, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON PUBLICATION

January 1, 1945, to January 1, 1946

The 42nd volume of THE JOURNAL was completed with the December issue. During 1945 there were published in THE JOURNAL twenty-nine original articles, nineteen case reports, eight special articles, eleven abstracts and digests, thirty editorials, one hundred sixteen news items, two organization activities, fourteen miscellaneous articles, sixty-three obituaries, twelve society proceedings, six Woman's Auxiliary articles, one correspondence, six legislation articles, sixty-nine news items of physicians in service, forty-eight book reviews, seven commercial announcements. There were 268 pages of reading material and 550 pages of advertising.

Advertising in THE JOURNAL from January 1, 1945, to January 1, 1946, earned $23,149.63. Subscriptions of nonmembers amounted to $63.00, making $23,212.63 earned by THE JOURNAL. The cost of production of THE JOURNAL (printing and illustrations) was $9,544.70.

R. L. THOMPSON, Chairman,
W. A. BLOOM,
ROBERT MUELLER,
J. WILLIAM THOMPSON.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Public Policy and Public Relations, Dr. Robert Mueller, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND PUBLIC RELATIONS

Dr. Robert A. Moore, member of the Committee, speaking for Dr. Mueller: First, may I convey to you the regrets of Dr. Mueller that he is unable to be here. We have prepared a short report which you have and Mr. Perry, public relations consultant, will speak as further report of the Committee.

Mr. Thomas W. Parry, St. Louis: A little explanation of the visual report may be necessary. Also, I might take a moment to explain some of the activities which can scarcely be illustrated.

In a recent news letter from the Council on Medical Service and Public Relations of the American Medical Association, it was pointed out, and I quote "That interest in the subject of public relations in medical circles is becoming greatly intensified."

About two thousand definitions have been written of public relations but, briefly, public relations is doing the right thing at the right time and letting the people know about it.

In the job of doing the right thing at the right time, it is hoped to be of service to the Association in advising with the officers and the Executive Secretary, without whose support and cooperation and help we could not be able to make any progress in this public relations program.

In the pamphlet, we believe we are telling the story through the various media of thought and idea: communications, the press, the radio, word of mouth, pamphlets, speeches and surveys. Much remains to be done. During the coming year it is expected, particularly, to intensify public relations service to county medical societies, launching a program of periodic recommendations as to public relations activities and lending any assistance possible in activating those activities.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Defense, Dr. C. E. Hyndman, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON DEFENSE

April 1, 1944, to March 1, 1946

Status of Cases

Cases pending April 1, 1944	6
Threats pending April 1, 1944	0
New cases since April 1, 1944	2
New threats since April 1, 1944	0
Cases settled since April 1, 1944	4
Threats dropped since April 1, 1944	0
Cases pending March 1, 1946	4
Threats pending March 1, 1946	0

Of the four cases settled during the period, all were settled out of court, or by adjustment by the insurance company and a second by a settlement claim paid by the insurance company.

C. E. Hyndman, Chairman,
O. B. Zeinert,
L. P. Forgrave,
Roland S. Kieffer,
L. F. Heimburger.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Cancer, Dr. E. C. Ernst, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON CANCER

Your Committee is giving the ever increasing national cancer problem very serious consideration, realizing that the people of Missouri likewise are interested vitally in the control of this menace. Cancer in Missouri has continued to inflict the highest death rate upon our population, second only to cardiovascular diseases.

Fortunately, there are signs of renewed public interest in cancer as shown by the last year's record of enthusiastic responses and active community participation in the various county programs by civic and national agencies which have been actively directing their respective individual efforts toward reducing the mounting cancer mortality rate.

Therefore, this is a most opportune time for the members of the Missouri State Medical Association to continue their cooperation and lend their wholehearted support to the contemplated state-wide campaign and survey of the cancer facilities and needs in Missouri by the American Cancer Society.

The Committee wishes to call attention to the probable changes in the supervision and management of the Ellis Fischel State Cancer Hospital. It is realized that in the past, ideal cooperation was not always possible, but since the provisions in the new State Constitution appear to be more flexible, in the future every effort should be made by the medical profession to support the present high standard of medical cancer service and scientific attainment. Otherwise, the Ellis Fischel State Cancer Hospital will remain as such in name only, and thereby fail in its purpose of continuing to contribute valuable research and clinical services to the medical profession and the indigent sick of the state. The present medical and surgical staffs have lived up to the specific purposes for which this hospital was designated and this Committee especially wishes to commend them for their unselfish and efficient services rendered the people of Missouri.

The Committee further recommends increasing the diagnostic cancer clinic facilities throughout the many rural sections of the state. The so-called "detection" or "prevention" clinics should be given immediate consideration by the Council and committees appointed for that express purpose with, perhaps, added recommendations or modifications of such proposed activities.

And, finally, the committee wishes to suggest that some form of "Organized Information Bureaus" might be developed under the control of the state and county medical organizations so that supervised uniform cancer data may be obtained by the general public in the interest of early diagnosis and treatment of this disease.

It is indeed fortunate that in Missouri today there are well established, nationally recognized cancer institutions, many approved diagnostic cancer clinics and hospitals, and also many county and state health agencies. The recently reorganized American Cancer Society Field Army activities should prove to be most informative and stimulating to the public and physicians alike. The practitioners in their respective communities are equally important potential factors in helping to spread the gospel that early diagnosis will pay dividends.

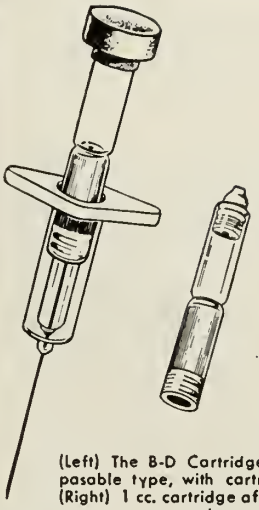
However, thus far these groups have been working more or less independently, and this Committee feels that here is a golden opportunity for the State Association to increase its efforts at cooperation and coordination or, perhaps, even lend its aid toward streamlining of these activities and thereby stimulating interest in the early diagnosis and establishing minimum requirements for the more effective treatment of cancer in both the rural and the more densely populated areas. It is too vast and complicated an undertaking for any one agency to cope with successfully.

The individual efforts of many separate agencies or cancer programs directed toward reducing the present high cancer mortality will, unquestionably, prove less effective than the combined and coordinated attack of all of these bodies when supported by the entire membership of the State Association.

Edwin C. Ernst, Chairman,
P. F. Cole,
Wm. E. Leighton,
David S. Dann.

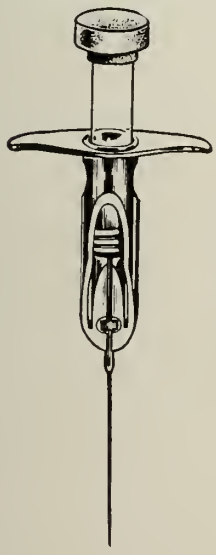
Announcing

Easier Administration of Penicillin in Oil and Wax



(Left) The B-D Cartridge Syringe, disposable type, with cartridge inserted. (Right) 1 cc. cartridge of penicillin in oil and wax.

The B-D Metal Cartridge Syringe with cartridge inserted.



Bristol Laboratories now introduce two techniques which are designed to make the administration of penicillin easier and more practical. Both of them make use of a 1 cc. glass cartridge of Penicillin in Oil and Wax. A completely new feature of the Bristol Cartridge is a specially designed rubber stopper which permits an aspirating test to prevent venoclysis.

Bristol Cartridges may be used anywhere, any time with the B-D Cartridge Syringe, Disposable Type. (Above) For office or hospital, many physicians will prefer the B-D Metal Cartridge Syringe. (Left)

In addition to the 1 cc. cartridges, Bristol Penicillin in Oil and Wax is still available in 10 cc. rubber-stoppered vials, for those who prefer to employ a Luer-lock syringe. All forms are available through your regular source of supply.

PENICILLIN IN OIL AND WAX BRISTOL

(Romansky Formula)

BRISTOL
LABORATORIES
INCORPORATED

SYRACUSE 1, NEW YORK

Ethics In Professional Protection

Confidential relations between Doctor and Patient are duplicated in relations between The Medical Protective Company and the Doctor.

The personnel of this company, engaged exclusively in serving you, likewise keeps inviolate the confidences involved in your malpractice difficulties.

We serve to preserve your reputation, property and earning power in every possible respect.

47 Years
of doing one thing right

THE
MEDICAL PROTECTIVE COMPANY
•
FORT WAYNE, INDIANA

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Medical Economics, Dr. Carl F. Vohs, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Committee on Medical Economics has had no formal meeting during the year but through correspondence has kept in touch with the work in which the committee has had a responsibility. Reports on these various activities follow.

Missouri Medical Service

Missouri Medical Service is the newest of the activities in the state in which this Committee has been active. Missouri Medical Service, the prepayment medical care plan approved by the House of Delegates at the Kansas City Session, was chartered on September 18, 1944, and began operation on April 15, 1945. Information on the plan has been sent to members from time to time during the ten months since the plan was placed in effect. It covers the state with the exception of Kansas City and nineteen counties in northwest Missouri which are covered by the plan in operation in Kansas City.

As of January 31 there were 13,638 contracts in effect covering 26,342 persons. Growth of the plan has been steady. It is felt that it would have been more rapid if it had started in normal times. V-E Day coming soon after the plan started made it impractical to sign up several companies in war industry, V-J Day bringing the same thing. Also the strikes during the winter have made it impossible to complete plans with several companies. However, the plan is now financially stable and each month has shown a greater increase than the preceding month.

The response of physicians has been excellent although not perfect. Probably all physicians never will cooperate with the plan but that approximately 70 per cent of physicians are cooperating while the plan is still not a year old indicates that it is understood and wanted by the majority of physicians.

The American Medical Association, at the meeting of the House of Delegates in December 1945, approved medical care plans and is backing such plans 100 per cent. Work is underway, under the sponsorship of the American Medical Association, whereby such plans throughout the country can cooperate and enable employes of companies which operate in a number of states to come under these plans.

The Committee believed in Missouri Medical Service when it was established and the ten months of operation has made that belief more strong.

Blue Cross Hospital Service and Medical-Surgical Service in Western and Northwestern Missouri

In the twelve months ending February 28, 1946, the integrated operation of the Blue Cross Hospital Service Plan and the Medical-Surgical Service Plan was very active. The area served includes nineteen counties of western and northwestern Missouri and the two major counties, Wyandotte and Johnson, in Kansas, which comprise a large portion of the metropolitan area of Greater Kansas City.

The Blue Cross plan, representing all eligible hospitals of the area, served 14,000 of its members for hospital care and expanded into many counties not previously open to enrollment. In close cooperation with the Missouri Farm Bureau Federation, through county Farm Bureau units, many effective enrollments were completed with members in rural areas increased to a new high.

The Surgical Care program, now in its third year, organized by the medical profession throughout the operating area, increased its enrollment to 55,000 members, all of whom were enrolled in the total Blue Cross membership of 135,000 members. The surgical plan added medical care in July 1945, service having been extended to some 5,000 members at this date. As in the case of Blue Cross enrollment, a great deal of the activity was centered in community campaigns and through the cooperative activities of the county Farm Bureau units.

One of the major enrollment programs in both Blue Cross and Surgical-Medical Care was in Buchanan County and the metropolitan area of St. Joseph, where membership increased to 11,000 participants. County-wide enrollments were established in the Missouri counties of Cass, Johnson, Lafayette and Nodaway. Others to be completed prior to the spring planting season are set up to be the counties of Ray, Caldwell and Holt.

The cooperation of the medical profession continued on an excellent basis, with the addition of some 120 ex-service physicians to the participating roster since V-J Day. There are now in excess of 600 participating physicians in the Surgical-Medical Plan.

Despite a loss of some 12,000 participants in the weeks immediately following the end of the Pacific War, much progress has been made. The Blue Cross plan lost many more participants than did the Surgical-Medical plan; yet each plan has regained or exceeded the membership prior to August 1945. Many localities within the operating area are drastically short of hospital facilities and physicians; yet despite this shortage, members of the Boards of Trustees and Directors of the plans feel that much additional enrollment will be accomplished in the coming months.

Saint Louis Group Hospital Service in Missouri

This is the tenth annual report on Saint Louis Group Hospital Service. Group Hospital Service, the Blue Cross of Saint Louis, is no longer an experiment. It has served to coordinate health facilities not only in Missouri but in other states and on a national level. In its ten years of operation, the executive staff of the Plan has assisted the Committee on Medical Economics of the Association in training executives and developing plans for other communities and states.

Group Hospital Service has extended its service to the point where today it protects more than 650,000 members in Missouri and Southern Illinois. Ninety hospitals in the area served by the plan guarantee service to members.

During the last two years concentrated effort has been made to enroll a larger proportion of outstate residents. Formation of community groups covering all residents who are not eligible for employe groups has brought outstanding results. At the present time, five field men devote their time to the outstate area and the enrollment to date in rural areas totals 75,124. In addition, 13,499 members have been enrolled through cooperation with the Automobile Club of Missouri.

Service to members was increased from 30 to 60 days per year last November and experiments in the care of convalescent patients are being conducted through cooperation of the Rose Bry Miriam Convalescent Home in Webster Groves.

In its nearly ten years of operation, the plan has paid more than $9,500,000.00 in hospital bills for some 201,000 cases. Some comment should be made of the wholehearted cooperation of member hospitals. We believe this is due in no small measure to the attitude of the entire Blue Cross staff toward the hospitals and their willingness and eagerness to be of service to the hospitals.

Farm Security Administration

Several years ago the Farm Security Administration established an organization known as the Southeast Missouri Health Association to provide medical, dental and hospital care to farm families who borrowed

money from the Farm Security Administration. The Administration has contracted its work throughout the country and in Missouri as well. It has asked approval of the Association to withdraw from all of Southeast Missouri with the exception of Butler County and that the income level in that county be raised. The alternative was that the Administration withdraw from the state entirely. The consensus of opinion so far has been that the Administration should be given approval of its work in Butler County but the matter still needs more study before a definite agreement is reached.

The Committee has no recommendations to make further than that the Association as such and individual members give support to these activities. The Committee feels that the medical and hospital plans are beginning to furnish the medical care that the people should have and that this care will improve and increase with the growth of these plans.

Carl F. Vohs, Chairman,
George A. Aiken,
C. A. W. Zimmermann,
W. F. Francka,
Ira H. Lockwood.

Dr. Carl F. Vohs, St. Louis, reporting further said: After about fifteen years of hard work, I think this is the red letter day of the Committee on Medical Economics. We have a Blue Cross plan that covers the State of Missouri. We have from Kansas City a membership of 135,000 and out of St. Louis, a membership of 650,000. The medical plan which has been operating in Kansas City for about three years has a membership of 55,000 and the plan in St. Louis has a membership of 37,439.

I want to thank the Council for the tremendous amount of help it has given Missouri Medical Service and the Association for lending $5,000 when the plan was started less than a year ago. As President of Missouri Medical Service, it is my pleasure now to repay the $5,000 to the Association. (Check presented.)

Upon motion, duly seconded, the report was accepted.

Dr. Vincent T. Williams, Kansas City, introduced Dr. Ward L. Mould, Consultant to the office of Vocational Rehabilitation.

Dr. Ward L. Mould: The Division of Vocational Rehabilitation was set up in the State Department of Education a number of years ago for the purpose of rehabilitating into gainful employment or more productive types of employment persons who had disabilities of a more or less chronic character.

When such cases are referred to the Division, many of them have had the maximum benefit of medical care. They may be suffering from diabetes or heart disease or arthritis or crippling orthopedic defects or a variety of conditions which may prevent their securing employment of any character or may force them to accept, what is for them, substandard employment.

Many could, if they had skills, with their disabilities secure positions of a more productive variety. Because we believe that many of you have patients who could profit by the services available, I would like to outline and explain the manner in which the Division operates. I will use a case to illustrate the point.

A 47 year old white male was referred for service. He had an arthritic spine as a result of an automobile accident several years before. He was unable to work at his usual job, as a bank teller, because the symptoms were exaggerated if he remained on his feet for several hours. He had had no employment for two years at the time of his referral except for odd jobs which he had been able to secure. His income from these jobs was about adequate for a subsistence level of maintenance.

The State Agency referred the client for physical examination because it was necessary to know the extent of disability, not only to establish his eligibility for service but also to determine if other defects were present which might have a bearing on the client's ability to work. No other defects of importance were found.

The Agency studied the educational and employment backgrounds. A psychiatric examination showed better than average intelligence. He showed he was able to use his hands in mechanical and finger dexterity tests.

When all this information was accumulated, what we call a "vocational objective" was worked out with him, and the client elected to be a watch repairman, an objective compatible with his abilities and defects.

The Division arranged for and paid for six months' training in an accredited school, at the end of which time the tools for his new trade were supplied, and the Division followed him afterward to assure his adjustment was satisfactory.

After six months as an apprentice he opened his own shop in a small community where for three years he has been self-supporting.

The total cost of services was something less than $400.00 and, it should be pointed out I think, that this man was a good candidate for welfare.

There are elements in this case which may not be typical, but the end result is reasonably typical of the cases referred and service by the Division.

Most of our clients are placed in employment after training. Many of them might rehabilitate themselves if they knew something about employment opportunities and if they had the ability to select a reasonably satisfactory vocational objective and if they had the money to secure the training and the few tools they need for the job. It is to get around these "ifs" that the Division has been established.

In a small percentage referred to the Division, especially cases referred by welfare agencies, there may be some type of medical service needed to equip the client for the vocational objective. The Division is prepared to arrange and pay for this service if (1) the medical work needed is necessary to attain the vocational objective; (2) the condition to be treated is, at most, slowly progressive; (3) the medical work will remove or bring about a substantial reduction in the disability in a reasonable period of time; (4) the service is not available elsewhere; and (5) the client is unable to pay for the service himself. In many of our cases needing medical services, these criteria pertain.

In their management the procedures are much the same as I have outlined already. They have the same studies to establish a reasonable vocational objective. They have a general physical and, when it is indicated, they also may have an examination by a competent specialist to determine the exact nature of the disability and to find out what can be done to correct it; how much time and money would be required for the service involved and the degree of improvement that might reasonably be expected from the procedures recommended.

If the service comes within the limiting criteria I have enumerated, the Division may authorize it.

The Division has secured the services of medical consultants to assist in the evaluation of its clients so that vocational objectives will be in the physical reserve of the individual. In addition to assisting in the setting up of proper standards for service and in establishing ethical processes and in the solution of other significant problems relating to the medical field, the Division has appointed a professional advisory committee composed of some of the outstanding physicians of the state.

May I suggest, then, that in your practice you evaluate your patients to see if any of them might profit by service from the Division of Vocational Rehabilitation.

Fundamentally, the activities of the Division are counselling and training. These particular services, unlike medical services, are offered without reference to the means of the individual. It has been found that often the improvement in the social economics of the patient has therapeutic value. To be sure, the Division does not justify its activities from this standpoint.

We are interested in placing handicapped individuals in a favorable position for competition in the employment market. Thank you.

Upon motion, duly seconded, the presentation was ordered referred to the Reference Committee on Medical Education and Public Welfare with the recommendation that it be printed in THE JOURNAL.

The report of the Committee on Mental Health, Dr. B. Landis Elliott, Kansas City, Chairman, follows:

REPORT OF THE COMMITTEE ON MENTAL HEALTH

Although hampered by war conditions, the Committee has endeavored to keep up its activities during the last year. The Committee has continued its studies of the laws relating to the care and treatment of the mentally ill in Missouri, it has given its support to legislation relating to improved salaries and better working conditions for the personnel of the State Hospitals of Missouri.

B. LANDIS ELLIOTT, Chairman,
FRANK M. GROGAN,
A. B. JONES,
F. M. MAPLES,
RALF HANKS.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Maternal Welfare, Dr. E. Lee Dorsett, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON MATERNAL WELFARE

The Committee on Maternal Welfare begs to submit the following report:

The Committee has approved a set of five letters on prenatal care compiled by Dr. L. M. Garner, Director of the Division of Child Hygiene of the Missouri State Board of Health. These letters go monthly from the office of the State Board of Health in Jefferson City to all expectant mothers who are registered in that office for maternal care and under the EMIC plan. These instructions are most valuable inasmuch as they give instructions to the expectant mother regarding her condition and care, as well as that of her unborn child. It also saves the time of the physician in instructing the patient on her prenatal care.

Second: Regarding the EMIC plan, the Committee has no comment as this is a controversial matter and while most physicians in large urban centers, especially the physicians specializing in obstetrics, are opposed to it, the physicians in rural districts have benefited by this plan.

We are again holding the Maternal Welfare luncheon meeting this year and as usual have a distinguished guest speaker, Dr. Burton Hamilton, Boston. The Committee heartily approves of this luncheon meeting and hopes that it will continue in the future. It has filled in a vacant period in the Annual Session and from the attendance and comments, the Committee feels that it should be continued. At the last Maternal Welfare luncheon meeting the attendance was around 125.

E. LEE DORSETT, Chairman,
BUFORD G. HAMILTON,
J. MILTON SINGLETON,
H. B. GOODRICH,
JAMES D. JAMES.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Health and Public Instruction (McAlester Foundation), Dr. M. D. Overholser, Columbia, Chairman, follows:

REPORT OF THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION (McALESTER FOUNDATION)

During the early part of the year 1945 Prof. J. W. Burch, Director of the Agriculture Extension Service of the University of Missouri, conferred with the Chairman of this Committee and Dr. Frank G. Nifong in regard to exploring a possible field of cooperation between the county extension agents and the State Medical Association. The following suggestions were formulated:

1. That physicians located in the various counties, on request from the county agent, advise the county agent on public health matters and give lectures on health problems before club meetings arranged by the county agent.

2. That specific and authoritative information be furnished the county agents on the relation of Bang's disease in cattle and other animal diseases to human beings for distribution by county agents to farmers and their families.

3. That advice and information be furnished the county agents on sanitary water supply, sewage disposal and related problems for postwar construction of new farm homes and buildings.

The above suggestions were submitted to the Council of the Missouri State Medical Association at their meeting in April 1945 and approved by them.

It was realized by both Prof. Burch and this committee that it would be necessary to wait until the end of the war and the return of doctors from the service before these suggestions could actively be carried out.

Dr. Wm. B. Kountz suggested that there has been one field of medicine which has not been properly presented to the public and that is the field of decline of the body associated with advancing age. When conditions will again allow time for physicians to make public talks on health subjects under the sponsorship of this committee this subject should receive consideration.

No funds have been expended by this committee and the balance of $180.00 deposited in the Exchange National Bank, Columbia, Mo., in the name of the Andrew McAlester Memorial Fund remains the same as it has been.

M. D. OVERHOLSER, Chairman.
FRANK G. NIFONG,
J. V. BELL,
GRAYSON CARROLL,
WM. B. KOUNTZ.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Control of Venereal Disease, Dr. Rogers Deakin, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON CONTROL OF VENEREAL DISEASE

The Committee on Control of Venereal Disease met at the Missouri Hotel, Jefferson City, on January 2, 1946, with Dr. Rogers Deakin, St. Louis, chairman, presiding. Those present were Drs. A. W. Neilson, St. Louis; W. S. Sewell, Springfield; John W. Williams, Jefferson City; Mr. T. R. O'Brien, St. Louis.

Dr. Williams discussed the reduction in treatment facilities in the state in the last three years, stating that there are 16 health units, 8 of which are without health officers; there are 29 other units with some form of health service, in many cases in charge of a nurse. He pointed out that this is especially serious right now in view of the fact that the separation centers are turning out men with positive or questionable tests—many are not receiving treatment who should and many are being labeled syphilitic who are not. It was agreed that the main problem was getting in touch with men who are being discharged who have syphilis. Dr. Williams stated that about 50 per cent were going to the rapid treatment centers and it was not known what was happening to the other 50 per cent; there have been 1,896 referrals and so far there are 444 reports from rapid treatment centers or 1 in 4 is going through.

The importance of reporting of all cases by physicians was stressed as it had been at previous meetings.

Dr. Williams stated that the State Board of Health

The Common Denominator of Reducing Diets

Whether weight reduction is to be brought about gradually, at the rate of a pound or two per week, or drastically at the rate of a pound per day, all reducing diets must recognize one cardinal requirement: the need for protein of the right quality in the right amount.

Unless biologically adequate protein is supplied in the quantity normally required, the living tissue itself would suffer; tissue repair could not be carried on; hemoglobin regeneration would be impaired; antibody formation would be curtailed; resistance to infectious disease would be lessened, and production of enzymes and hormones would fall below the required level

Lean meat may well be called the common denominator of reducing diets. Its protein content is notably high, and the protein it supplies is of high biologic quality, adequate for every protein need.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES

was considering a letter to all physicians covering the whole subject. This was approved by the committee.

Mr. O'Brien suggested Councilor District meetings with at least a part of the program given over to instruction in diagnosis and treatment of syphilis and gonorrhea with a public meeting to follow in the evening. The Committee approved this.

Dr. Williams gave the following figures on the distribution of drugs: bismuth in 1944, 23,866; in 1945, 5,555. Mapharsen in 1944, 5,333; in 1945, 4,123; neoarsphenamine, in 1944, 3,345; in 1945, 867. These figures referred to physicians' requests; hospital and clinics' requests remained about the same.

The number of cases of syphilis reported in 1944 was 10,065 and in 1945 was 10,621. The number of cases of gonorrhea reported increased from 8,044 in 1944 to 11,000 in 1945.

The Committee agreed that the distribution of drugs by the State Board of Health should be carried out as it is now being done.

Dr. Williams presented briefly a federal plan whereby physicians would be paid a fee for referral of patients with infectious syphilis to rapid treatment centers. It was asked that when the plan was received in its entirety that it be presented to the committee.

The meeting adjourned at 3:00 p. m.

ROGERS DEAKIN, Chairman,
A. W. NEILSON,
W. S. SEWELL,
C. T. RYLAND,
CHARLES GREENBERG,
R. LEE HOFFMANN.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Industrial Health, Dr. H. I. Spector, St. Louis, Chairman, follows:

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

The Committee on Industrial Health met on August 12, 1944, and again on January 30, 1946. At the first meeting, Dr. Orlen J. Johnson of the Council on Industrial Health of the American Medical Association met with the Committee and discussed industrial health problems.

It was the opinion of the committee that full information regarding industrial health in the State of Missouri was necessary in order to plan a program for effective action in this regard. The year 1945 was therefore devoted by the committee to ascertaining the extent of the problem as it exists in the State of Missouri to date.

The Committee is now very happy to present to you the results of its investigations regarding industrial health in the State of Missouri today.

1. Regarding the Number of Industries in the State

The number of industries in the state exclusive of agriculture, forestry, and fishing follows:

Construction	1,164
Mining	243
Manufacturing	2,848
Transportation, Communication and Utilities	669
Wholesale and Retail	5,385
Insurance, Finance and Real Estate	1,144
Personal Service	1,768
Miscellaneous	2
Total	13,223

2. Regarding Full or Part Time Health Service

The information regarding industries having full or part time health service in the state as a whole is not at the present time complete. In general it may be said that every industry in the mining, construction and manufacturing fields has at least a doctor on call. Scott Johnson, Chief Public Health Engineer of the State Health Department, estimates that between 20 and 30 per cent of the plants in these three fields have full time or part time physicians.

The figures are somewhat more informative for St. Louis. Survey records of the St. Louis Health Division reveal the following: that over 49 per cent of the large plants and over 96 per cent of the small plants have neither a physician, nurse or safety engineer nor director and less than 24 per cent of the larger plants and only 1.3 per cent of the small plants have physicians; also over 28 per cent of the large plants and less than 1 per cent of the small plants have a nurse.

3. Regarding the Work of the Official Agencies in Industrial Health

It might be well at this point to examine the existing official agencies that contribute to the development of a program for industrial health in the State of Missouri. It is not irrelevant at this point to give you a short history of the development of industrial health in our state.

Official industrial hygiene work in Missouri began in St. Louis in 1934 when a personal survey of 630 plants was made by the St. Louis Health Division and the U. S. Public Health Service, the results of which were published in U. S. Public Health Service *Bulletin* No. 216. The data collected, included welfare and medical services available to employes and the potential health hazards for the different industries or service groups by occupations and materials to which the workers were exposed. On the basis of this work, an industrial hygiene service for St. Louis was established in 1936, financed by the State Board of Health with social security funds.

State-wide administration of industrial hygiene was begun in 1937 by the Division of Public Health Engineering and Industrial Hygiene. In February 1939, the St. Louis County Health Commissioner upon the recommendation of the State Board of Health added to the staff a full time engineer for industrial hygiene service in the county. In 1940, a Kansas City Metropolitan Area Industrial Hygiene service was created, including Kansas City, Jackson County and Clay County.

The services offered on a state and local level, the activities and accomplishments of these official agencies as well as the problems facing them are well discussed by the articles of Dr. A. Link Koven and Scott Johnson, and Robert Brown of the State and City Health Departments respectively, published in the December 1945 issue of THE JOURNAL of the MISSOURI STATE MEDICAL ASSOCIATION, to which I refer you for details.

4. Regarding the Work in Industrial Health by the Nonofficial Agencies

The nonofficial participation in the industrial health program in the state are mainly through the medical schools.

Before the war both medical schools participated in a teaching program mainly to medical students in the form of five lectures and clinical demonstrations. During the war period one of the schools, on account of shortage of personnel, was forced to abandon teaching of industrial hygiene temporarily. At the present time one medical school offers five lectures to the third year medical students. The other medical school plans in the near future to resume its teaching of industrial hygiene to its medical students.

On the whole, the committee is of the opinion that teaching of industrial health in the medical schools has been sadly neglected and what is being given is entirely inadequate.

5. Accomplishments of the Committee on Industrial Health

In addition to the investigations that the committee made regarding the problem during the last year, the

activities of the committee were mainly in the field of education.

Through the cooperation of the St. Louis Medical Society the evening of October 16, 1945, was devoted to a discussion of the subject of "Pneumoconiosis" with Dr. A. J. Lanza from New York as guest speaker. A meeting on Industrial Health was held in Kansas City with Drs. Dudley A. Irwin and Dr. J. W. G. Hannon as guest speakers. The same speakers also presented a paper on "Aluminum Prophylaxis and Therapy in Silicosis" before the Industrial Hygiene Association of Greater St. Louis. Many physicians attended this meeting.

The committee takes pleasure in reporting that with the cooperation of the editorial board of the State Medical Journal the entire December 1945 issue of The Journal was devoted to a discussion of varied topics on industrial hygiene by outstanding local, state and national authorities.

6. Recommendations of the Committee

For the purpose of developing a more effective program for safeguarding the health of the workers in industry, a meeting of the committee was held on January 30, 1946, and the situation regarding industrial health in the State of Missouri as it exists today was reviewed, analyzed and discussed and as a result of these deliberations the committee unanimously decided to recommend to the Delegates the following ten-point program.

1. That the State Medical Association urge its members to report their known cases of industrial diseases to the local health departments.
2. That the State Medical Association through its representatives request a conference between the Insurance Companies, Compensation Commission, local and state health departments, management, labor and other interested groups to discuss the problem of reporting of occupational diseases.
3. That the State Medical Association urge the responsible persons or committees in the official agencies, both city and state, to appropriate sufficient funds for the maintenance of an efficient department on industrial hygiene.
4. That the State Medical Association urge the medical schools of the state to broaden their programs for undergraduate and postgraduate teaching of industrial health.
5. That the Medical Association include in its future scientific programs a symposium on industrial health or invite a nationally known speaker to present a subject of interest to the general practitioner on industrial health.
6. That the State Medical Association recommend to the County Medical Societies to appoint committees on Industrial Health to work with the state Committee on Industrial Health.
7. That the State Medical Association urge industry to require a pre-employment physical examination including an x-ray of the chest, since it is the opinion of the committee that no examination of the chest is complete without an x-ray.
8. That the State Medical Association endorse periodic health examinations in industry including x-ray of the chest.
9. That the State Medical Association urge industry to make provision for employing the physically handicapped individuals provided they are not infectious to anyone.
10. That the State Association appoint a committee for the purpose of cooperating with the Compensation Commission mainly for the purpose of reviewing medical testimony in cases when questionable testimony is given. Further, the committee recommends that the Association instruct this committee or appoint a special committee to study this problem in order to make appropriate recommendations to the Association.

In conclusion the committee wishes to state that it is cognizant of the fine work that is being done by the local and state health departments in industrial health and wishes to compliment them for their efforts and to thank them for their whole-hearted cooperation.

Finally, the Committee wishes to express its appreciation to the personnel of the office of the Missouri State Medical Association for its splendid cooperation.

H. I. Spector, Chairman,
E. C. Funsch,
E. M. Fessenden,
R. R. Oglevie,
J. E. Castles.

Upon motion, duly seconded, the report was accepted.

The report of the Committee on Physical Therapy, Dr. F. H. Ewerhardt, St. Louis, Chairman, follows:

REPORT OF COMMITTEE ON PHYSICAL THERAPY

It has been stated that World War I established orthopedic surgery as a specialty. Likewise World War II has performed the same function for physical medicine. This came about largely because of a recognition that often physical measures take over when surgery or medicine has completed its job. Physical medicine offers the means of a more complete restoration. This statement is supported by noting that today a large amount of money is being spent in the promotion of research and teaching in the field of physical medicine.

Mr. Bernard Baruch, a well-known statesman and philanthropist, was so impressed with the need of advancing the knowledge of physical medicine that early in 1944 he created what is known as "The Baruch Foundation" and endowed it with a million and a quarter dollars. It is planned to cover the following:

(a) Teaching—Needs for development of an adequate program in teaching of physical medicine.

(b) Basic Research—By basic research we mean controlled scientific investigation of the fundamental aspects of physical treatment of disease.

(c) Rehabilitation—Medical rehabilitation is the restoration of people handicapped by disease, injury or malformation as nearly as possible to a normal physical and mental state. Medical rehabilitation fills the gap between the customary end point of medical attention and the real necessities of many patients.

(d) Hydrology and Health Resorts—Needs for adequate development of hydrology and spa therapy.

(e) Body Mechanics—Body mechanics is the mechanical correlation of the various systems of the body. Normal body mechanics obtain when the mechanical correlation is most favorable to the function of these systems.

(f) Occupational Therapy — Occupational therapy provides a graded program of activity to restore maximal physical and mental function or seeks to divert a person and improve morale by arousing his interest, courage and confidence.

(g) Promotion of teaching of and research in physical medicine in all approved medical schools.

(h) Promotion of wartime and postwar physical rehabilitation.

(i) Need for additional training courses for occupational therapy and physical therapy technicians. The Army Service Forces alone are asking for 400 physical therapy technicians for this year.

The National Foundation for Infantile Paralysis recognizing the critical shortage of qualified physical therapy technicians has set aside an appropriation of $1,267,000.00 for the training of those vitally needed specialists. We quote "Today there are only 2,500 qualified physical therapy technicians. It is estimated that an additional 5,000 could be used right now, not only for polio victims but also for aiding recovery from many other diseases and disabilities."

Time marches on and so also does medical science.

F. H. EWERHARDT, Chairman,
C. A. W. ZIMMERMANN,
F. L. FEIERABEND,
J. L. WASHBURN,
C. H. CREGO.

Upon motion, duly seconded, the report was accepted.

The report of the Committee for the Study of Cardiac Diseases, Dr. J. DeVoine Guyot, Jefferson City, follows:

REPORT OF THE COMMITTEE FOR THE STUDY OF CARDIAC DISEASES

This committee has suffered along with all other special activities in medicine by the lack of medical men in the various parts of Missouri and the extra work that the war has forced upon those who bore the burdens of the work at home.

We feel that it is indeed fortunate that we were able to hold the committee together as a functioning unit ready to resume full activity at such time as the return of the enlisted medical personnel is ready to resume their studies.

So much has transpired, and the advancement in cardiovascular study has been so rapid that we feel that there will be a real demand for the county postgraduate study in the immediate future.

The members of the committee have made a great effort to keep abreast of the advancements, and will be ready when called upon to assist in the rehabilitations of the returned Medical Corps throughout the state.

We have not neglected to accumulate teaching material. We are awaiting the green light.

The committee held a meeting in St. Louis, in late November, at which time we arranged to have a banquet which will be preceded by the usual social hour where we may renew our friendships and ascertain the desires of the members regarding future activities. This will be on Sunday evening, March 24.

It is quite fortunate that we have been able to obtain Dr. Buford Hamilton, of Boston, as the guest speaker at the banquet, and he has chosen a subject that will be of general interest to the members regardless of whether they are engaged in cardiology or general practice. His subject will be "The Heart in Woman."

Tickets will be available through the various secretaries, and it is the wish of the committee that all who anticipate attending make their purchases early since it will be very necessary for us to know how many to prepare for.

It is urged that all the ladies attend the convention, and we hope that all members who attend will bring the ladies of their party with them.

There is going to be a good time, something to stimulate thought, and a chance to renew your old friendships. Please make preparations to be on hand and ready to express your desires as to the future activi- of this committee.

J. DEVOINE GUYOT, Chairman,
A. GRAHAM ASHER,
JULIUS JENSEN,
E. J. SCHISLER,
HORACE W. CARLE.

DR. J. DEVOINE GUYOT, Jefferson City, reporting further, said that he felt it necessary for some new members to come on the Committee and that he wished to be relieved as Chairman of the Committee. He asked that some provision be made for financial assistance to the Committee.

Upon motion, duly seconded, the report of the Committee was accepted and the request for funds referred to the Council.

The report of the Committee on Postwar Planning, Dr. M. Pinson Neal, Columbia, Chairman, follows:

REPORT OF THE COMMITTEE ON POSTWAR PLANNING

At the dinner meeting for Presidents and Secretaries, at the Kansas City session, April 23, 1944, this Committee reported findings from its survey of the state, showing changes in physician-population ratio during the period 1910 to 1940, the number of physicians in the armed forces, and the numbers actively in practice on January 1, 1944, the physician decrease after mobilization began, discussed pointed and definite problems, and gave a summary of immediate needs. That address, "A preliminary Report and Plea," which shokingly revealed an alarming need for physicians, diagnostic clinics, and hospitals in Missouri, was published in THE JOURNAL in June 1944. Reprints were sent to all officers, members of the Council and House of Delegates.

The summary of the article listed the following immediate needs:

1. More doctors of medicine, especially of general practitioners in the out-state areas.
2. A well planned state program for establishing hospitals.
3. An economic level for all people that would permit payment for medical care or, lacking this, some form of meeting costs by a voluntary prepayment plan or health insurance.
4. An intensified postgraduate medical education.
5. A closer profession-public relation and an increase in lay health education.
6. A placement list of positions and locations needing men of medicine.
7. An expansion in the activities of the departments of health.

Mr. Thomas W. Parry, Jr., Public Relations Consultant to this Association, conducted a similar survey in the name of this Committee during the latter part of 1944, prepared a formal report showing county, city and rural population areas, with numbers of physicians in practice and their age breakdown. His report was received by the Committee on March 1, 1945.

The Chairman of the Committee has kept close contact with several national and Missouri organizations, including the Commission on Hospital Care, a nongovernment public service committee to study hospital service in the United States, the American Medical Association, the American Hospital Association, public health agencies, the University of Missouri and its program toward furthering the four-year Medical School, and being a member of the General Council of the Advisory Committee to the State Health Commissioner to Survey Health and Hospital Facilities, has kept pace with their activities and aided in their recommendations and program. He has participated in several conferences with representatives of the Missouri Farm Bureau Federation and Missouri Farmers' Association concerning rural medicine, diagnostic clinics, treatment centers and hospitalization needs. With Dr Lockwood, he served as member of the organization committee to set up Missouri Medical Service, Inc., and see it launched on its extensive program.

The State Office of Procurement and Assignment, of which one member of this Committee, Dr. Mueller, is the Director, has consistently done much to aid in the placement of returning physician veterans, as has the Chairman of the Committee. Numbers have appealed to both for information and advice about locations, practices, positions and hospital training programs.

On December 2, 1944, the Committee had in St. Louis its last meeting, discussed numerous affairs, and made certain recommendations to the Council. Since that time it has seemed impossible for the members of the Committee to get together, though a number of efforts have been made. There have been times when one of its members should have appeared before the Council to receive or give counsel, but this has not been possible because on only one occasion during more than



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASSN

a year has information concerning such meetings been received by the Chairman of the Committee, and then other previously arranged meetings interfered.

Recommendations

When this Committee was created it was given very broad powers, hence these recommendations:

1. This is a time not for planning, but for action. Some of the needs listed in this Committee's Preliminary Report have been acted upon, the others still deserve and should receive attention.

2. There is need for a close co-relation between officers, the Council, and committees, and an understanding of duties and responsibilities by the latter.

3. A study of committees is needed for two purposes: (a) To reduce their numbers; (b) To strengthen their personnel for work. When a member is appointed he should be chosen because of qualifications and interest, rather than because he has asked to be placed on "some committee."

4. Missouri hospitals having qualifications should be encouraged to take doctors of medicine who are returning from military service as well as recent graduates from schools of medicine for training as interns and residents. Those few hospitals having more definite qualifications should offer training in special fields such as gynecology, obstetrics and neuropsychiatry. Those offering such training should consider aiding these men in establishing locations for practice, for positions in research, teaching or industry. It is felt that senior residents and fellows who are veterans could be privileged and encouraged to spend a portion of their time in the hospital training programs as, for example, the forenoons, and the rest of their time and energy in building up some permanent and remunerative service.

5. There is a need for defining "hospitals," and for classifying them under the titles "hospital care," "hospital patient," and "hospitalization," as used by Missouri Medical Service and Missouri Blue Cross, for payment of claims to institutions rendering hospital care and to physicians. The present ratings by the American Medical Association and the American College of Surgeons do not satisfactorily serve the needed purpose. To maintain permanency, once such an institution is listed, there will, of necessity, need to be some method of reinspection and rating.

6. A better and more extensive medical control or supervision over the "nursing homes," or often called "convalescent homes," that are springing up like dandelions over the entire state. Their control has been placed legally under the State Board of Health, but that body with the funds allocated to it for this purpose cannot maintain supervision over even a fractional number of these "homes." Increased funds and a personnel for the purpose are needed, and this Association should use its strength to that end.

7. Members of this Association should better acquaint themselves with medical and hospital needs and lend help in meeting these needs.

8. That the Council, the members of the House of Delegates and the officers at once evidence interest, enthusiasm and imagination toward reactivating and bolstering the county medical societies and thereby increase membership and activity at that level and, simultaneously, in the State Association.

9. Since action, rather than planning, is today called for, it is recommended that this Committee on Postwar Planning be discontinued forthwith.

M. Pinson Neal, *Chairman,*
Robert Mueller,
Ira Lockwood.

Upon motion, duly seconded, the report was accepted and the recommendation that the committee be discontinued complied with.

The report of the Council, Dr. W. A. Bloom, Fayette, Chairman, follows:

REPORT OF THE COUNCIL

Meeting of June 23, 1945

The Council met on June 23 and 24 at the Coronado Hotel, St. Louis, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were: Drs. H. E. Petersen, St. Joseph; H. B. Goodrich, Hannibal; J. W. Thompson, St. Louis; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Kennedy, Marshall; Wallis Smith, Springfield; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; A. S. Bristow, Princeton; R. L. Thompson, St. Louis; C. E. Hyndman, St. Louis; Robert Mueller, St. Louis; Lt. Raymond McIntyre, Barin Field, Florida; W. H. Bartleson, Kansas City; Thomas W. Parry, St. Louis; T. R. O'Brien, St. Louis.

Mr. O'Brien reported on the present status of legislation, reporting that the bill for the four-year medical school, H.B. No. 138, had passed the House, and that the osteopathic bill, H.B. No. 402, had been defeated on final passage by a small margin but there is a possibility it may be brought up again on the floor of the House because one of the proponents changed his vote. Attention was called to material that was sent to the legislators by the osteopathic proponents just prior to the bill coming up for final passage.

The Treasurer reported the financial condition of the Association satisfactory and his report was accepted.

Lt. McIntyre, who was on a few days leave, was greeted by the Council.

Mr. O'Brien reported that the only dates open for the Annual Session near the usual time in St. Louis were March 24, 25 and 26. Upon motion of Dr. Thompson it was voted to leave the decision about time and place of meeting to the Executive Secretary and the Chairman of the Council.

After discussion by the Council, Dr. Claude J. Hunt, Kansas City, was appointed to the Committee on Cancer Biopsy to fill the unexpired term of Dr. J. E. Stowers, Kansas City. Dr. Hunt was named chairman of the committee.

Mr. Parry reported work done in Public Relations by large charts. These showed thirty-four newspaper stories on thirteen subjects in forty-four weeks; essay contest; ten broadcasts in ten cities; attendance at meetings of eleven projects vital to the Association; twenty-four page booklet on University of Missouri Medical School; three speeches written, scheduled and publicized; survey prepared and tabulated on postwar and University of Missouri Medical School; work with county medical societies and direct mail; showing a total in eleven months of 1,040 hours spent by staff members, or a total of 130 days.

Mr. O'Brien read a letter from the Michigan State Medical Society concerning the Michigan Health Council, the purposes of which are (1) present a united front on all matters of common interest; (2) coordinate related activities; (3) conduct a joint public education program.

Dr. Goodrich suggested that President Truman be acquainted with the work in medical care being promoted in Missouri and in other states.

Mr. Bartleson stated that Dr. James R. McVay had just been made vice chairman of the American Medical Association Council on Medical Service and Public Relations and it was suggested that the feeling of the Council be expressed to Dr. McVay.

Dr. J. W. Thompson reviewed the work in St. Louis in the interest of the Department of Public Health and Welfare under the new Constitution, pointing out that a Citizens' Committee had been formed with which the health group had met many times but that no agreement of a set-up had been made with that group. He pointed out that the Community Health League had appointed a committee consisting of Drs. Bristow, Sewell, Peden, Mantz and Thompson to promote the interests of the health group. He recommended that the Council cooperate with the Community Health League committee and through them and together with allied health groups draw up a bill outlining the Department of Public Health and Welfare so that it will meet the needs of the people of Missouri and also meet medical standards and so that matters of policy will arise from those having skill in medical work rather than from lay groups.

Dr. Baldwin moved that this recommendation be accepted and after discussion by Mr. O'Brien, Drs. Goodrich, Mueller and Thompson the motion was passed.

Dr. Mueller reported on the present situation in obtaining release of doctors from service and it was asked that material which could be released be made known to the doctors throughout the state either through THE JOURNAL or by direct mail.

Sunday, June 24

Mr. O'Brien reported that there was a possibility that the office might be moved into better quarters in the same building.

After discussion by Dr. Thompson, Dr. Smith moved that the Council authorize the changes. Passed.

The chairman appointed the following committee to act on public relations work of the Association: Drs. Wallis Smith, Chairman; Hyndman, Baldwin, Goodrich and Mueller.

Dr. Bristow stated that he had been contacted by the Woman's Auxiliary and that they wished an Adviser from the Council and also five additional advisers. Dr. Bristow appointed Dr. Mantz as Adviser to the Woman's Auxiliary and as the five additional advisers: Drs. F. T. H'Doubler, Springfield; E. C. Bohrer, West Plains; H. B. Goodrich, Hannibal; H. E. Petersen, St. Joseph, and Paul Baldwin, Kennett. He also asked that $50.00 be placed at the disposal of the Woman's Auxiliary, which was done.

Dr. Bristow suggested that attention be called to the issues of THE JOURNAL in which Council minutes appeared that members could be more informed of the work of the Council.

Dr. Vohs reported that the first group was enrolled in Missouri Medical Service on April 15; that to date there are 4,084 enrolled; 51 groups; 2 claims have been paid, 4 approved and 6 which have not cleared as yet; the largest group is 346 persons with dependents and the smallest group 16 with the average being 86. Dr. Vohs read an editorial which appeared in the St. Louis Medical Society *Bulletin* and suggested that it appear in the August issue of THE JOURNAL. Short discussion followed by Drs. Petersen, Goodrich, Thompson, Mr. Bartleson and Mr. O'Brien.

Dr. Petersen moved that if counties in his District had not made a decision regarding choice between Missouri Medical Service and Surgical Care, Inc., contract within 90 days, that the type of contract to be sold in the county be left to the best judgment of officials of Surgical Care, Inc. The motion was passed.

Dr. J. W. Thompson pointed out the situation on clinical laboratories in that anyone, however unqualified, could open a laboratory and suggested that the Council adopt a resolution asking the State Board of Health to take some action on this question. The following committee was appointed to draft a resolution: Drs. Petersen, chairman, Thompson and Kennedy.

Mr. O'Brien suggested that the bulletin sent to Councilors each month might also go to secretaries and presidents of county societies and include matters with which secretaries might not be conversant although Councilors are. Upon motion of Dr. Petersen, the executive secretary was so instructed.

Meeting of September 22, 1945

The Council met at the Coronado Hotel, St. Louis, September 22, 1945, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were Drs. H. B. Goodrich, Hannibal; J. W. Thompson, St. Louis; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Ken-

nedy, Marshall; H. L. Mantz, Kansas City; Wallis Smith, Springfield; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; A. S. Bristow, Princeton; R. L. Thompson, St. Louis; C. E. Hyndman, St. Louis; R. M. James, Jefferson City; R. E. Schlueter, St. Louis; Robert Mueller, St. Louis; W. E. Leighton, St. Louis; C. Souter Smith, Springfield; Mr. Thomas W. Parry, St. Louis; Mr. W. H. Bartleson, Kansas City; Mr. T. R. O'Brien, St. Louis.

The Chairman appointed the following committee as the General Committee on Arrangements for the 1946 Annual Session: Drs. J. W. Thompson, St. Louis; H. B. Goodrich, Hannibal, and R. B. Denny, Creve Coeur.

Dr. Smith brought up the subject of a special meeting of the House of Delegates. After discussion it was decided that unless some special need arose it would not be held but, if such arose, it should be held as a Sunday one-day meeting in Jefferson City.

The assessment for 1946 was made the same as 1945, $7.00 in addition to the regular dues of $8.00.

Mr. Parry gave the report of public relations work which had been done since the last meeting of the Council. Upon motion, duly seconded, the report was accepted.

A letter from the A. M. A. concerning state committees on Rural Medical Service was read by Mr. O'Brien. This was discussed by Drs. Smith, Bloom, Mantz, James and Goodrich. It was suggested that physicians throughout the state communicate information of contemplated hospitals in their communities to their councilors, or the committee on hospital construction (Drs. Kennedy, chairman, Bohrer, Baldwin, Petersen, Smith, Bloom and Goodrich) and that chambers of commerce and civic clubs should be advised that the Association is interested.

Dr. J. W. Thompson read the following resolution:

Whereas, The Council of the Missouri State Medical Association endorses the American Medical Association's resolution in regard to clinical laboratories and recommends that this position be taken by the Missouri State Board of Health, therefore be it

Resolved, That the resolution, which follows, be transmitted to the Missouri State Board of Health with the recommendation that appropriate action be taken by that Board.

Resolution

Whereas, Years ago the examinations made by clinical laboratories were largely factual in nature and, as a consequence, a portion of the work was done by chemists and technicians not having medical degrees or being licensed to practice medicine, and

Whereas, The developments in laboratory medicine, particularly in the last one or two decades, have been such as to require clinical medical knowledge for the safe performance of many of the newer diagnostic procedures undertaken, and

Whereas, Specimens are obtained by surgical means from the spinal canal, veins and organs of the body and dyes and other drugs are injected for the purpose of various functional tests, all definitely requiring clinical medical experience and judgment for their performance and interpretation if the safety of the patient is to be guarded; therefore be it

Resolved, That the American Medical Association specifically recognizes the practice of clinical pathology as a specialty of medicine and believes that those persons who practice it and who act as directors of clinical laboratories must be graduates of recognized medical schools and licensed to practice medicine in their respective states; and further be it

Resolved, That owing to the nature of the subject, the American Medical Association recognizes that it is necessary for these persons to complete at least three years of adequate training in clinical pathology, in addition to the training which they have received in regular courses in medical schools, before assuming the directorship of clinical laboratories.

After discussion by Drs. James, Mantz, Thompson and Mr. Bartleson, the resolution was adopted and ordered transmitted to the State Board of Health.

Dr. Bristow presented material on the new policy of the American Red Cross blood donor service and suggested that Dr. Barnes of the Red Cross be invited to appear before the Council on Sunday. This was decided upon.

Dr. Mantz presented the request of the Woman's Auxiliary that the Association have a roster printed for them. Dr. Mantz suggested that it would be well also for the Association to have a roster. It was then suggested that there be an annual blue book number of The Journal and after discussion it was moved by Dr. Mantz that the June 1946 issue of The Journal be a year book number issued under the direction of the Committee on Publication and contain a roster of members of the Association and the Woman's Auxiliary; that reprints be made of the roster of the Woman's Auxiliary for their use. The motion passed.

Dr. Mantz moved that there be a joint committee to be sponsored by the Missouri State Medical Association with other allied organizations as the tuberculosis society and cancer society for the purpose of correlating the work; that the committee have a representative from the State Board of Health and all interested organizations. The motion was passed.

The Treasurer gave his report showing that the Association was functioning within its budget. The report was accepted.

A letter asking the attitude of the Association toward the American Association of Physicians and Surgeons was presented and after discussion it was decided that the matter of joining that society should be left to the individual doctor and no special action was necessary, it being an ethical society.

Mr. O'Brien stated that all Congressmen from Missouri had been asked for a statement concerning the Wagner-Murray-Dingell legislation and that replies from Congressmen would appear in the October issue of The Journal.

Mr. O'Brien reported a meeting with F. S. A. representatives and that F. S. A. wanted to withdraw from all southeast Missouri with the exception of Butler County where they would increase the income limitation for farm families to $1,500. If this was not approved, the F. S. A. would discontinue entirely. After discussion by Drs. Baldwin, Goodrich, Mantz and Bohrer, Dr. Mantz moved that Mr. O'Brien, Dr. Vohs and Dr. Baldwin be instructed to proceed with contacting the F. S. A. along the following lines: approval was given at the request of the F. S. A. when people needed help and it is now responsibility of F. S. A.; county courts might be contacted; that full coverage or none was better.

Dr. Mueller reported that 13,000 medical officers are expected to be released by January 1, and an additional 17,000 by June 1. He reported that the Army would release medical officers automatically who had 80 points, were 48 years of age, those on active duty prior to Pearl Harbor, with exceptions of 200 scarce specialists. The Navy will release men who have 60 points or if they have the Medal of Honor, the Navy Cross, Silver Star Medal, and if awarded for combat, the Legion of Merit or Distinguished Flying Cross. That discharge can be gained if sufficient community need is proven, then the oldest man from the district or one in service longest should be chosen.

The Council went on record as expressing their appreciation and thanks for the work done by Dr. Mueller in the Procurement and Assignment Service and to Col. W. L. Gist for his work with the Selective Service System.

The secretary was instructed to write a letter of congratulations to Col. Wallace Graham upon his appointment as personal physician to President Truman.

Sunday, September 23

Dr. Smith presented the following report: The Committee appointed to study the public relations program recommends that Mr. Parry be reemployed from July 1, 1945, to July 1, 1946, at the same salary and that as much of the stenographic service be transferred to the Association office as is possible. He moved the adoption of the report which, upon second, was passed.

Dr. McVay discussed briefly the Council on Public Relations of the A. M. A. and announced that a meeting of the Council would be held in Chicago, October 19 and 20. He brought out that the various bills before the national congress on social legislation are based on the rewarding of indigency. He discussed briefly the four-year medical school bill and asked Mr. O'Brien to give its status in the legislature. Mr. O'Brien stated that it was now in the Senate Committee on Education.

It was suggested by Dr. Denny that each Councilor see his Senator and urge support of H.B. No. 138.

Dr. Mantz moved that some action be taken to refute some of the statements made by the Board of Curators and the following committee was appointed to do this: Dr. Mantz, Dr. Bohrer, Dr. R. L. Thompson, Mr. Parry and Mr. O'Brien.

Dr. Bristow introduced Dr. Raymond F. Barnes who explained the new policy of the American Red Cross blood donor service (plan which was published in the September issue of THE JOURNAL).

After discussion Dr. Bohrer moved that a committee be appointed to study the possibilities of the plan and the part that Missouri State Medical Association might take in it; seconded and passed. Dr. J. W. Thompson was asked to act as chairman and select men in position to advise to act with him on the committee.

Dr. R. M. James, State Health Commissioner, discussed briefly some of the work of the State Board of Health, especially the merit system.

Dr. Mantz moved that an advisory committee from the Council to the State Board of Health be appointed. Upon passage the following committees was appointed: Drs. J. W. Thompson, chairman, Goodrich and Bloom.

Dr. Schlueter discussed briefly the membership in the American Medical Association of associate members who are not M.D.'s and who have too much power in directing the policies of the medical profession. He stated that he would present a resolution on this at a later meeting.

Mr. Bartleson told of the Health Forums which are being conducted in Kansas City and announced the program for the forum on October 17 as a symposium on "Medical Care for the American People" in which Dr. Louis H. Bauer, Senator Pepper and Dr. Morris Fishbein will be the speakers.

Mr. McCarthy reported that Missouri Medical Service now has more than 11,000 enrolled and that the gross income for the period of its operation was $15,429. He recommended that the plan include a service clause at $2,500 level as soon as that is possible. He discussed the medical service plan trends from a national viewpoint.

Upon recommendation of Dr. Schlueter, Dr. Denny moved that Dr. Bristow represent the Association at the annual pilgrimage to the grave of William Beaumont.

Dr. R. L. Thompson and Mr. McCarthy paid tribute to Dr. Walter Baumgarten for his service to the Association and to the medical profession.

The policy of the A. M. A., especially the Council on Public Relations and the 14 tenets of the A. M. A., and the question of nation wide participation in medical care plans, especially the United Medical Service sponsored by the New York Academy of Medicine, were discussed by Drs. McVay, Mr. McCarthy, Dr. Peden, Dr. Goodrich, Dr. Mantz and Mr. O'Brien.

Dr. Goodrich made the following motion: That the Council approve the action of Missouri Blue Cross if it chooses to accept the program of the United Medical Service when approved by the Council of Public Relations of the A. M. A. The motion was seconded by Dr. Bohrer.

Dr. Mantz moved that the matter be referred to the Committee on Medical Economics for report back to the Council. This motion was seconded by Dr. Hyndman.

After discussion as to whether a referral motion took precedence over another motion, the second motion was passed.

It was decided to hold the next Council meeting the latter part of November.

Meeting of November 17, 1945

The Council met on November 17 at the Jefferson Hotel, St. Louis, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were Drs. H. E. Petersen, St. Joseph; H. B. Goodrich, Hannibal; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Kennedy, Marshall; H. L. Mantz, Kansas City; Wallis Smith, Springfield; Paul Baldwin, Kennett; R. L. Thompson, St. Louis; C. E. Hyndman, St. Louis; A. S. Bristow, Princeton; R. E. Schlueter, St. Louis; R. M. James, Jefferson City; John Williams, Jefferson City; C. F. Adams, Jefferson City; Robert Mueller, St. Louis; Mr. Thomas W. Parry, St. Louis; Mr. W. H. Bartleson, Kansas City; Mr. T. R. O'Brien, St. Louis.

It was moved that the reading of the minutes be dispensed with.

Mr. O'Brien reported on the conference of the Council on Medical Service and Public Relations held in Chicago on October 18 and 19. He gave information on national legislation—that it is expected the Wagner-Murray-Dingell bills will die in committee but that parts are being picked out and presented in other bills, as S 1318. He reported on discussions of prepayment medical plans and stated that each state was invited to send two representatives to a meeting on November 30 and December 1 to work towards correlation and preparation of a plan to be submitted to the House of Delegates of the A.M.A.

Dr. Mantz told of a meeting which had been attended by Dr. F. L. Feierabend and presented a plan, the National Casualty Corporation, to cooperate with all state medical prepayment plans.

Dr. Mantz moved that copies be prepared for the Councilors and the matter be referred to the Committee on Medical Economics; that two representatives be appointed from Missouri, without power to act but to refer back to the Council. The motion was passed.

Dr. Goodrich moved that the two representatives from Missouri be Drs. Carl F. Vohs, St. Louis, and F. L. Feierabend, Kansas City. Passed.

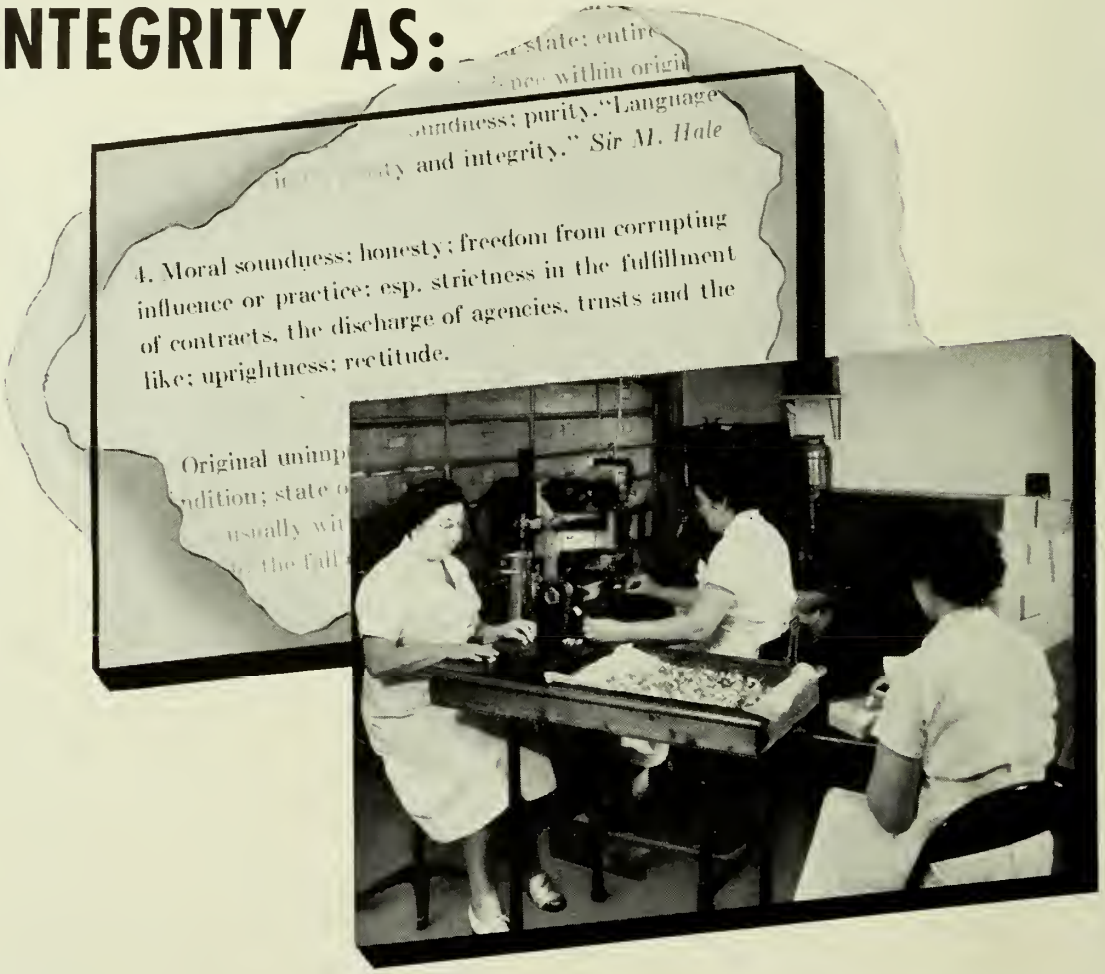
Drs. Petersen, Baldwin and Hyndman were appointed as the Budget Committee.

The Treasurer gave his report showing the Association was functioning within its budget. The report was accepted.

Dr. Mueller reported that the Surgeon General expects to call to active duty as rapidly as possible every commissioned officer serving as a resident and, therefore, veterans will represent practically the only source of supply with which to fill residencies; large numbers of veterans are now and will become increasingly available to serve residencies; internships terminating April 1, 1946, will continue until July 1, 1946; senior residents who are completing their 27 months of service in a hospital will be called to active duty on or about April 1, 1946; those graduating on or about April 1, 1946, will be allowed to serve internships until July 1, 1947.

Dr. Kennedy reported briefly for the committee on Hospital construction. Mr. O'Brien discussed legislation that would affect hospital construction, the Hill-Burton bill, and Missouri H.B. 459 which would make the Missouri law conform.

WEBSTER DEFINES INTEGRITY AS:



U. S. STANDARD PRODUCTS

●

BIOLOGICALS

●

PHARMACEUTICALS

●

ALLERGENIC PRODUCTS

●

HORMONES

Most physicians who use U. S. Standard Products routinely—and they are many—would agree as to the singular aptness of that definition applied to U. S. Standard biologicals and pharmaceuticals.

An increasing number of physicians are looking to U. S. Standard to supply them with medicaments formulated to meet unusual as well as routine needs—and to bring them the new advances of pharmacologic progress.

This specialized service to the medical profession stems from a somewhat unusual organization. Devoted to the principle: "Not how *much*, but how well," U. S. Standard Products Co. are especially well situated in location, staff, personnel and facilities.

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.

Mr. Parry suggested that all Councilors notify this committee of knowledge of hospitals being considered and that a letter be written to the person in the community taking the lead, offering help in this line. It was announced that material was becoming available that would be of aid to the committee and would be sent to the committee.

Mr. Parry reported on the meetings he had attended at the Conference in Chicago on October 18 and 19 and also reported on the public relations work that had been done since the last Council meeting. The report was accepted.

Dr. William H. Olmsted, St. Louis, spoke in favor of S.B. 130, the enrichment of flour, and explained that it was sponsored principally by the National Research Council to prevent the return to unenriched flour in the postwar era. Dr. Baldwin moved that the Council endorse S.B. 130. The motion passed.

Dr. Mantz presented a problem which has arisen in some portions of the state because the narcotic laws prevent the telephoning of any prescription that contains a narcotic and pointed out the hardship that it placed, principally on the patient. It was pointed out that the law was being enforced because of the drug addict situation. It was agreed that it would become, if it were not so already, a national problem for the physician and patient.

Dr. Petersen moved that a letter be written to the Council on Pharmacy and Chemistry of the A.M.A. on the use of codeine and the handling of telephone prescriptions, asking that they take appropriate action. The motion was passed.

Mr. O'Brien read a letter from the auditor of the Association pointing out that full receipts for expenses should be presented with expense accounts.

A letter to Dr. Bristow from Dr. Grayson Carroll, president of the Mississippi Valley Medical Society, was read in which it was suggested that the Association invite the organization to meet in St. Louis next fall. It was decided that that was the prerogative of the St. Louis Medical Society and not the Association.

Meeting of Sunday, November 18

Dr. Carl F. Vohs, St. Louis, explained the work of the Farm Security Administration in Southeast Missouri. It was explained by Mr. Kleinschmidt that the appropriation for 1946 did not allow work in as large a territory as in former years and wished approval of the Association for continuation of the work only in Butler County.

After discussion, Dr. Smith moved that the Council abide by the decision of the Committee on Medical Economics but suggest to the committee that the program be carried out in Butler County.

The budget committee presented the following budget for 1946 which was adopted:

Salaries	$14,000.00
Printing of JOURNAL	12,000.00
Defense	500.00
Postage and Express	1,000.00
Postgraduate Lectures	1,000.00
Printing, Stationery, etc.	1,000.00
Travel—Executive Secretary	1,200.00
Telephone and Telegraph	1,000.00
Office Rent and Light	1,750.00
Meetings and Committee Expense	8,000.00
Public Relations	9,000.00
Insurance Annuity	900.00
Misc.—General Expense	750.00
Office Furniture and Fixtures	200.00
Woman's Auxiliary	500.00
Total	$52,800.00

Dr. Mantz reported a committee meeting held November 17 and presented the following recommendations:

1. That the Association through its JOURNAL urge better reporting of tuberculosis cases.
2. That three additional tuberculosis hospitals are needed, in the southeast, northeast and northwest portions of the state, increasing bed capacity by 1,500.
3. Development of a cooperative project between the tuberculous interests and eleemosynary to establish rehabilitation and vocational training work at the Mount Vernon sanatorium.
4. That the Committee on Tuberculosis of the Association be an advisory committee on tuberculosis to the State Board of Health.

Dr. Mantz read by title a resolution of the Missouri Tuberculosis Association approving the sale of seals. Upon motion the report and resolution was approved.

Dr. Vohs reported briefly on the status of Missouri Medical Service showing that it was progressing satisfactorily. He presented the matter of voting members for the Board of Trustees and it was suggested that Mr. O'Brien send a letter on the subject to each Councilor.

Dr. James R. McVay, Kansas City, reported on the work of the Council on Medical Service and Public Relations, on various phases of the A.M.A. and legislative work.

Dr. Mantz presented a resolution of the Wayne County Medical Society proposing a Section on General Practice of the A.M.A. Dr. Mantz moved that the Council instruct its Delegates to vote for the Wayne County proposal. Passed.

Dr. Goodrich moved that a national insurance plan be approved to cooperate with local plans providing proper safeguards be included. Passed.

Mr. O'Brien reported on the present status of bills in the legislature.

Dr. Goodrich moved that Mr. O'Brien and Mr. Parry list rebuttals that should be made in connection with H.B. 138 and place this in the hands of the legislators.

Mr. O'Brien reported on a talk by Major General Hawley on the work of the Veterans Administration which he stated would appear in the December issue of THE JOURNAL. He also presented a plan of the Monmouth County Medical Society for the care of Veterans as follows:

Monmouth County, New Jersey, Medical Society Plan for the Care of Veterans of World War II

1. All members of the Monmouth County Medical Society, and of other County Medical Societies in New Jersey, who are designated by the Monmouth County Medical Society, will, with their consent, be designated as part-time physicians of the Veterans Administration.
2. The Monmouth County Medical Society will establish in such hospitals as it may determine, triage or sorting clinics. Such clinics will be open for the examination of veteran patients at such times as the need indicates, probably once each week or oftener. Each such clinic will be staffed by such specialists as are indicated after a trial. The function of these clinics is:
   a. To determine by examination whether or not the veteran needs treatment.
   b. To determine what such treatment should be and where it should be given.
   c. In cases where treatment is authorized by the Veterans Administration, to refer the patient to the proper physician or hospital for such treatment.
3. The Monmouth County Medical Society will form a disciplinary or reference committee to see that the patient receives the treatment indicated by the designated physician, and to pass upon complaints from all sources.
4. The Monmouth County Medical Society will operate this program for a trial period not to exceed three months without pay, except that physicians giving treatment authorized by the Veterans Administration will be paid fees. The Monmouth County Medical Society will submit to the Veterans Administration a schedule of fees which its members believe to be rea-

sonable and just, and the Veterans Administration, after consultation with the Society, if necessary, will determine the schedule of fees to be paid. Except for the payment of authorized service to patients, the Veterans Administration will not be obligated financially during this trial period.

5. The Veterans Administration will provide the proper liaison and facilities for making prompt decisions as to service connection in each of the clinics.

Dr. Curtis H. Lohr was appointed as chairman of a committee to work on a plan for care of veterans.

It was decided that the next meeting of the Council should be about January 18 and 19. Dr. Smith asked the Council to meet in Springfield and it was decided that it would be better not to go to Springfield during the winter because of difficulty in reaching there from Kansas City and other parts of the state.

Meeting of January 12

The Council met at the Coronado Hotel, St. Louis, on January 12, 13, 1946, with Dr. W. A. Bloom, Fayette, Chairman, presiding. Those present were Drs. H. B. Goodrich, Hannibal; J. W. Thompson, St. Louis; R. B. Denny, Creve Coeur; W. A. Bloom, Fayette; R. W. Kennedy, Marshall; H. L. Mantz, Kansas City; Wallis Smith, Springfield; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; A. S. Bristow, Princeton; C. E. Hyndman, St. Louis; W. L. Allee, Eldon; R. M. James, Jefferson City; R. E. Schlueter, St. Louis; Robert Mueller, St. Louis; Mr. Thomas W. Parry, Mr. Lemoine Skinner and Mr. T. R. O'Brien, St. Louis.

Mr. Parry presented a report on public relations work done since the last meeting of the Council. The report was accepted. Mr. Parry introduced Mr. Lemoine Skinner who is now associated with Mr. Parry.

Mr. O'Brien presented the program to date for the Annual Session. He stated that sixty-eight exhibits for the session had been reserved. He asked Councilors to ask members in their districts to make reservations early for the session.

A letter from Chariton County Medical Society concerning electing to membership a former member who had left that county to go with the Veterans Administration and more recently in military service was presented. After discussion of the limitations of the Constitution in the matter, Dr. Thompson moved that the candidate be instructed to apply for society membership in the county in which he holds legal residence. The motion passed.

Mr. O'Brien presented material from the St. Louis Better Business Bureau and asked advice of the Council concerning membership in the Bureau. After discussion by Dr. Smith and Dr. Mantz, both stating that their societies belonged to the bureaus in their cities, Dr. Mantz moved that the Association apply for membership which is to cost $100.00.

Bills in the Missouri Legislature and in the Congress were discusseed. It was stated that the joint committee of the Council and the Community Health League would meet in the afternoon and would report on Sunday.

Dr. Mueller reported on the work of Procurement and Assignment and thanked the Councilors and the Association office for the assistance given.

Upon motion of Dr. Smith, a vote of thanks was extended to Dr. Mueller for his work.

After discussion of dues of physicians returning from military service, the following committee was appointed to study the question: Drs. Mantz, Goodrich and Mueller.

Dr. Schlueter reported on the House of Delegates of the American Medical Association bringing out the following points: Pledge of support to Major General Paul R. Hawley; condemning of hospital staff meetings taking the place of society meetings; approval of Hill-Burton bill; question of International Medical Congress under UNO was referred to the Board of Trustees; Physicians should restrict telephoned prescriptions for narcotics to emergencies; public relations counsel should be utilized on national, state and county levels; should be no cancer diagnostic clinics without approval of county societies; nation-wide organization of prepayment medical service plans sponsored by medical societies; recommendation of change in by-laws for two meetings a year of House of Delegates; disapproval of licensing without examination discharged medical officers because of state laws; qualification of physicians is a local problem; favored EMIC but opposed the Pepper bill; recommended formation of National Health Congress and referred to Council on Medical Service and Public Relations; Board of Trustees were instructed to issue booklet on the importance of animal experimentation; reaffirmed approval of work of the National Committee for the Extension of Medical Service. Dr. Allee called attention to the new Section on General Medicine.

Dr. Goodrich spoke of the seeming excellent qualifications of the three new members of the Board of Trustees.

The committee to study the petition of the Pan-Medical Association was asked to present a report at the March 24 meeting of the Council.

Articles in several recent medical publications were discussed and Mr. O'Brien suggested that Councilors subscribe to Survey Graphic, 112 East 19th Street, New York 3, N. Y., subscription price $3.00.

Dr. Mantz suggested that nonscientific publications be asked to notify the Association of medical articles to appear and that a listing of such articles be carried in The Journal.

The Treasurer presented a brief report on the finances of the Association.

Meeting of Sunday, January 13

Dr. Lohr outlined the problems confronting the Veterans Administration in care of veterans and gave some of the views of Major General Hawley on this. (Article in January issue of Journal carries an article giving views of Major General Hawley.) Dr. Lohr also presented the plan which has just gone into effect between Michigan Medical Service and the Veterans Administration. After discussion by Drs. Mantz, Lohr, Smith and Mr. O'Brien, Dr. Mantz moved that this matter be referred to a committee of five veterans with Dr. Lohr as chairman who would study the problem and outline plans to be carried out in Missouri. The motion was passed.

Dr. Thompson submitted the report of the joint committee on Public Health and Welfare, outlining the bills that are now before the Legislature as to Public Health and Welfare and also on licensing. This was discussed by Drs. Goodrich, Lohr, Bloom, Mantz and Mr. O'Brien.

Dr. Thompson moved that the Association go on record as approving Senate Bill 349 with certain changes and modifications. The motion passed.

Dr. E. P. Buddy, St. Louis, president of the St. Louis Medical Society, was introduced, and stated that the St. Louis Medical Society wishes to cooperate with the State Association.

The amount of work of the Association and the need for further work, especially in contacting and working with county medical societies, was discussed. It was moved that Lt. McIntyre, upon his discharge, be reemployed as field secretary, his principle work being visiting county societies, assisting them in getting new members and arranging programs for them together with research work that may be necessary; that Mr. O'Brien be retained in executive position with the Association.

Dr. Mantz, reporting for the committee on dues of returning physicians, suggested a tentative by-law allowing the remittance of dues, upon request, which would cover a period that would apply to the complete first year the physician is out of service. He stated that the committee would have a definite recommendation at the next meeting of the Council.

Dr. Bohrer asked approval of the rehyphenation of the Howell-Oregon-Texas-Wright-Douglas Counties into one society. This was approved by the Council.

W. A. BLOOM, Chairman.

DR. W. A. BLOOM, Fayette, reporting further, said: The Council met on March 24 with all members present. The Chairman made the following recommendations which were adopted:

In order to increase the effectiveness of the Missouri State Medical Association, especially in its relationship to the members and in rendering service to the people of Missouri, the Chairman of the Council wishes to offer the following procedure to the Council for its consideration.

Personnel, or rather the lack of it, has been a deterrent factor up to the present time in trying to carry out the aims of the Council and House of Delegates. With the return of Raymond McIntyre it now will be possible to carry out many of the objectives of the Association.

Recommendations

1. (a) Field Secretary, Mr. McIntyre, and the Executive Secretary, Mr. O'Brien, immediately to attempt to assist the county societies to have meetings and in cooperation with the Committee on Postgraduate Course secure competent doctors to discuss scientific phases of medicine. Also bring county societies up to date on the progress on the economic side of medicine. Try to increase the membership by urging all eligible physicians to join their individual county societies.

(b) Reestablish the former Councilor District meetings so that at least one district meeting be held in each of the ten Councilor Districts each year; arranging these as either all day or afternoon and evening affairs: providing good scientific speakers, legislation, medical economic progress, dinner and evening meeting for the public.

2. Establish immediately in the Association office the following bureaus:

(a) Bureau of Information. This is recommended by the A. M. A. last meeting of House of Delegates in Chicago. The purpose is to continue in effect the present information contained in the files of the director of Procurement and Assignment, Dr. Mueller. This information gives a complete record of all physicians now practicing in the state (members and nonmembers), their location, age and other pertinent information. Keep this bureau up to date so that it will be possible at all times to be able to inform physicians of locations, etc.

(b) Bureau on Rural Medical Service—to work in conjunction with the Committee on Rural Medical Service to secure up to date information on laws pertaining to hospital construction, costs and other pertinent information for the use of members, particularly in rural areas who desire to secure county hospitals.

(c) Bureau of Research and Statistics—to study the laws of our state and other states and to compile statistics on matters of interest to medicine. To assist any of the committees in carrying out their objectives. (Example: Committee on Mental Health—make study of laws pertaining to state mental institutions and, based on the study, if needed, make recommendations to the legislature in the name of the Committee on Mental Health of the Association.)

3. Carry the message of Missouri Medical Service, Surgical Care and Blue Cross all over the state.

4. Tie up the first three parts with good publicity through our Public Relations Department.

5. Using this session as a beginning, to build up the Annual Session of the Missouri State Medical Association into one of the biggest medical meetings in the country.

Dr. J. W. Thompson presented a letter from the St. Louis Department of Public Welfare signed by Dr. J. Earl Smith which included the following resolution:

Resolved, That the officers of the Missouri State Medical Association be urged to use all appropriate resources and influences of the Association to bring about at the earliest possible date complete coverage of the state's area and population by local, county, district or regional full time modern health services, under the direction and leadership of an especially trained and experienced state health officer.

Upon motion it was decided to place this resolution before the House of Delegates.

Upon motion it was decided to change the special committee of the Council on Hospital Construction to the Committee on Rural Medical Service to conform to the committee of the A. M. A.

Upon motion it was decided to send $50.00 to the Conference of Presidents and other Officers of State Medical Associations.

The roster number of THE JOURNAL was discussed and it was decided that it should follow the style of the A. M. A. Directory, giving the specialty of the physician and indicating special societies and Boards.

Dr. Vohs reported briefly on Missouri Medical Service and stated that the $5,000.00 lent by the Association would be paid at the House of Delegates.

Upon motion it was decided to buy a U. S. Savings bond with this $5,000.00 paid by Missouri Medical Service.

A proposal submitted by the Missouri Press Association to carry paid advertising in Missouri newspapers was discussed and the cost was considered prohibitive.

Upon motion the report of the Council was accepted and the resolution referred to the Reference Committee on Miscellaneous Affairs.

Appointment of Committee on Nominations

The President announced the appointment of the Committee on Nominations as follows:

R. M. James, Joplin, Chairman.
Cabray Wortley, St. Joseph.
W. F. Francka, Hannibal.
E. P. Buddy, St. Louis.
J. C. Creech, Troy.
A. C. H. Van Ravenswaay, Boonville.
George A. Aiken, Marshall.
Fred B. Kyger, Kansas City.
C. F. Callihan, Willow Springs.
W. H. Barron, Fredericktown.

DR. E. P. BUDDY, St. Louis: May I present the following resolution:

WHEREAS, The Medical profession considers itself charged with the health of the people and at the same time it is an integral part of the people, and

WHEREAS, Local, state and national activities, both legislative and educational, constantly influence the health of the people and the ability of the medical profession to serve the people in this capacity, and

WHEREAS, A physician does not have time to consider these various activities and at the same time keep abreast of medical progress, and

WHEREAS, The medical profession has been so well served in being kept informed and also its interest in connection with serving the health of the people protected in both legislative and educational matters by the Community Health League, therefore, be it

Resolved, That the House of Delegates of the Missouri State Medical Association commend the work of the Community Health League and urge its members to endorse individually the work of the League.

DR. E. P. BUDDY, St. Louis: May I present the following resolution:

WHEREAS, Medicine, as it is now taught and practiced in the United States has reached a state of perfection unexcelled in any part of the world, and

WHEREAS, This state of perfection is in a large part due to two causes: (a) the unselfish idealism and professional devotion of doctors, and (b) to the opportunity afforded them by that free enterprise which is one of the blessings of our democratic government, and

WHEREAS, Political, economic and social agencies now work to regulate the practice of medicine in the United States in the manner that will deprive doctors of the liberties enjoyed by other groups in following their arts, their crafts and their pro

Dependable Nourishment

DURING THAT *all-important* FIRST YEAR OF LIFE





The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant *— from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

fessions, which regulation will obstruct the further progress which the medical profession has a right to anticipate, therefore, be it

Resolved, That the St. Louis Medical Society pledge itself to prevent by all means in its power the passage of any law which will materially alter the present relationship of physician to the state and physician to the individual who requires his service, and be it further

Resolved, That our delegates to the Missouri State Medical Association be instructed to prepare and seek passage of suitable instruments to convey these declarations and these determinations to the House of Delegates of the American Medical Association.

Upon motion, duly seconded, these resolutions were referred to the Reference Committee on Resolutions.

DR. EMMET KANE, St. Louis: The resolution which was just presented instructed your delegates to prepare a resolution to be presented to you at this meeting. This is the resolution which the delegates from the St. Louis Medical Society now desire to present to you for your consideration and, we trust, your favorable action:

WHEREAS, Under the free enterprise system our Republic has become the most powerful and influential social and political instrument the world has ever known, and

WHEREAS, The atmosphere created by the principles enunciated in our Declaration of Independence and preserved by our Constitution has developed a medical profession in America whose excellence is not approached in any part of the world, and

WHEREAS, Efforts are now being made to deprive Doctors of Medicine in the United States of some of the rights and privileges freely enjoyed by their fellow citizens in other arts, crafts and professions, therefore be it

Resolved, By the Missouri State Medical Association in convention assembled in St. Louis on the twenty-fourth day of March in the year of our Lord nineteen hundred and forty-six, that we warn our fellow Americans against sinister attempts being made by various political, social and economic agencies to substitute socialistic collectivism for democratic free enterprise in our national life, and be it further

Resolved, That the Missouri State Medical Association be instructed to continue its campaign of education to the end that our fellow citizens be informed of the disastrous effects this substitution will produce in the fields of medical practice and progress, and be it further

Resolved, That its delegates to the American Medical Association be instructed to deposit this instrument with that body and to pledge the full strength of the Missouri State Medical Association to any measure adopted by it which will seek to prevent political domination of the profession of medicine or political encroachment on those inalienable individual rights of our citizens which are essential to the pursuit of happiness.

Upon motion, duly seconded, this resolution was referred to the Reference Committee on Miscellaneous Affairs.

DR. A. S. BRISTOW, Princeton: I wish to present a resolution:

WHEREAS, The members of the Council of the Missouri State Medical Association, in common with physicians throughout the nation, are fully conscious of the progressively effective program of the National Physicians Committee for the Extension of Medical Service in its dissemination of factual information on the values, methods and accomplishments of American medicine, and

WHEREAS, The public, as a result, has not only been generally enlightened on the contributions, achievements and true aims of the medical profession in the United States, but has also been warned of the dangers to the public health implied in the subtle campaign which would discredit the doctor, therefore be it

Resolved, That the House of Delegates of the Missouri State Medical Association reaffirms its approval of the activities of the National Physicians Committee, and heartily recommends to its affiliated societies and all individual physicians that they give adequate financial and moral support to the National Physicians Committee.

Upon motion, duly seconded, this resolution was referred to the Reference Committee on Resolutions.

DR. CHARLES L. KLENK, St. Louis: May I present the following resolution on the modification and correction of the present Workmen's Compensation laws of the State of Missouri:

WHEREAS, The present Workmen's Compensation laws functioning in the State of Missouri are considered antiquated, grossly unjust and obviously deficient, and

WHEREAS, The right of the industrially sick or injured individual to choose, without penalties, his physician or physicians to take care of his ailment is encroached upon, destroying the proper doctor-patient relationship, causing grief, dissatisfaction and undue hardships, and

WHEREAS, The present laws encourage situations where the insurors, as well as others responsible for the financial liabilities of the said injured individual, are in a position to control or modify, directly or indirectly, through various well-known procedures, the opinions of the doctors who are appointed by them to take care of these injured cases, thus opening the way for suits, harmful litigations and unnecessary delays, and

WHEREAS, The competition of quality of service is completely disregarded under the present laws creating conditions which are obviously and definitely detrimental to the welfare of the injured individuals and medical progress, and

WHEREAS, The present compensation allowances need readjustments and clearer definitions to insure the injured individual a just deal, and

WHEREAS, The present laws do encourage political practices and undue favoritism in the selection of attending physicians and medical referees and consultants to such an extent that the selection of the proper, impartial and in many instances competent attending physician referees or consulting physician for a case is more the exception than the rule, therefore be it

Resolved, That this Legislative Assembly of the State Medical Association of Missouri urge the Missouri State Legislature to modify, correct and amend the present Workmen's Compensation Laws of this State in the following manners:

1. Amendment and correction of the present schedule of disability, or disabilities, which are obviously obsolete and unjust.

2. Amendment and correction of Section 3701 to the effect that industrially injured individuals are not penalized in any way or manner for using their inalienable rights to choose their physicians to take care of their accidental illness provided that the chosen physicians meet any and all standards of professional nature which may be required by laws or local practices.

3. Amendment and correction furthermore of this section 3701 to prohibit and discourage the use of the services of medical referees, consultants and policy-making medical experts who directly or indirectly have had prolonged and continuous dealings with insurors or corporations, and whose impartiality may be questioned for obvious reasons, and to stimulate and encourage the selection of doctors who are associated with reputable institutions closely related to Health Welfare, such as hospitals, clinics and teaching institutions.

4. Amendment and correction of Section 3747 in such a manner that quality of service and professional competency be considered the primary factors in the selection of the medical referees, consultants and attending physicians for industrially injured individuals.

Upon motion, duly seconded, this resolution was referred to the Council.

DR. HUGH L. DWYER, Kansas City: May I present the following resolution which is merely to obtain approval of this body to a proposed child health study in Missouri:

WHEREAS, The American Academy of Pediatrics is conducting a nationwide study of child health services to determine what facilities are available to provide essential preventive, diagnostic and curative medical services to children, and

WHEREAS, Such a study is necessary for the planning for better and more evenly distributed health services for children in the postwar years, and

WHEREAS, The Academy of Pediatrics believes that the responsibility for such planning rests squarely upon the physicians themselves and that the several bills before Congress indicate that if physicians do not assume this responsibility, plans for medical care will be made by others, and

WHEREAS, It is essential that those who know what constitutes good medical care and who are engaged in rendering medical care are best qualified to develop and conduct such a program, and

WHEREAS, This study has the support of many state medical societies as evidenced by editorials in state medical journals and *The Journal of the American Medical Association* and is now underway in several states and completed in North Carolina, be it

Resolved, That the House of Delegates of the Missouri State Medical Association approve the Child Health Study in Missouri under the direction of the Missouri State Chairmen of the American Academy of Pediatrics and urge the cooperation of all officers and members of the Association with the pediatricians engaged in this study.

DR. B. E. DETAR, Joplin: May I present the following resolution:

WHEREAS, The Missouri State Medical Association is resolved to provide the best medical care for all the people of Missouri, and

WHEREAS, This Association is alive to the need for improving medical care for the people of rural Missouri, and

WHEREAS, In pursuance of this purpose this Association has adopted a four-point program consisting of:

(1) Establishment of a full four year course of medicine by the University of Missouri, with the final two clinical years in Kansas City.

(2) Provision by the state for medical scholarships to deserving students with the stipulation that these students, after graduation and completion of internship, return to communities serving rural areas to practice medicine.

(3) Constructions of hospitals in rural areas under the Hill-Burton plan and the Missouri constitutional provision that adjoining counties may build a common hospital.

(4) Promotion of Blue Cross Hospitalization and voluntary medical and surgical care plans, so that medical, surgical and hospital care may be procured on a voluntary prepayment basis.

Whereas, House Bill 138 which would accomplish provision No. 1 of this comprehensive plan, is now under consideration by the Missouri Senate Committee on Education, therefore be it

Resolved, That the Missouri State Medical Association, in eighty-eighth annual meeting assembled, urge early passage of House Bill No. 138 so that an immediate start be made now to provide the best medical care to the people of Missouri and especially to those of rural Missouri, and be it further

Resolved, That the Council on Medical Education and Hospitals of the American Medical Association be requested to make a survey of the facts relative to medical education and health services in the State of Missouri at the earliest opportunity and report to the Council of the Association.

Upon motion, duly seconded, this resolution was referred to the Council.

Dr. Cabray Wortley, St. Joseph: What is the official position of the Association regarding the Veterans Administration and the care of returned veterans?

Dr. Curtis H. Lohr, St. Louis: Many states, particularly Michigan and New Jersey, are working with the Veterans Administration to handle these cases through the group hospital and medical plans. These states are now functioning and a definite plan is to be evolved. As yet I do not think even the Veterans Bureau knows just how to handle the problem. It is, within the next few months going to make contracts with the various state associations, either as such or through the existing prepayment plans, handling them in the private hospitals and then be paid on a definite schedule basis. A number of those plans have been evolved and it will depend entirely upon experience which is now developing as to the future plan of operation.

Dr. Fred B. Kyger, Kansas City: The Jackson County Medical Society and the citizens of Kansas City extend to the Missouri State Medical Association a cordial invitation to hold their 89th Annual Session in 1947 in Kansas City. Kansas City and Jackson County have been honored on previous occasions to be the host at the Annual Sessions of the Missouri State Medical Association and will deem it an honor and a privilege to be a host for the 89th Session in 1947.

Upon motion, duly seconded, the invitation to meet in Kansas City in 1947 was accepted.

Upon motion, duly seconded, the House of Delegates adjourned.

TUESDAY, MARCH 26, 1946—SECOND MEETING

The House of Delegates convened at 2:00 p. m., March 26, with the Speaker pro tem, Dr. W. F. Francka, Hannibal, presiding.

The Committee on Credentials reported a quorum present.

On motion, duly seconded, the reading of the minutes of the previous meeting was dispensed with.

Dr. Francka asked the permission of the House to have Dr. A. S. Bristow, Princeton, President, preside in his place temporarily. The permission was granted.

Dr. A. S. Bristow, Princeton: The next order of business is the election of our officers. The first will be the election of a President. We have, as you know, rather an unusual situation this year. We are without a President-elect and therefore we must elect a President and a President-elect.

Nomination of President

Dr. W. F. Francka, Hannibal: It is my great pleasure and privilege to present and to place in nomination for the favor of this high office of President of this organization one of our outstanding and able members. I shall present to you in the briefest possible sketch some pertinent references to his personal qualifications, distinctions and recognitions.

Professionally he is a man of outstanding competence and ability. Organized medicine he has served long and well. He has been a member of the Council for very many years. In that capacity he has helped formulate and later to guide the Blue Cross plan and the medical prepayment plan. He has rendered outstanding services as a member of many different committees which had to do with public relations. His record of long and loyal and able service should leave with you every assurance of competent leadership and natural guidance in any problem that will confront him in his high office.

The nominee is a man of appealing personal gifts that produce accord and headway in any working body as it sets about its appointed work. His record of service is long and distinguished and I know that it cannot fail to commend him to be considered a conscientious choice of this body for the highest honor and office within the gift of this convention.

It is with pride and great pleasure that I present and place in nomination for President my friend, Dr. Howard B. Goodrich.

On motion, duly seconded, the nominations were closed and the Secretary was instructed to cast the unanimous ballot of the House of Delegates for Dr. Howard B. Goodrich, Hannibal, for President.

Dr. Goodrich was escorted to the platform by Drs. Wallis Smith, Springfield, and W. A. Bloom, Fayette.

Dr. Howard B. Goodrich, Hannibal: This certainly is an honor that I feel very, very deeply, and I feel that it is an honor to the section of the state to which I belong as well as a personal honor.

I know that I am going to have the cooperation of all the officers, councilors, office force, and all the county societies.

We have many things to do. We have important work to be done. All this has been quite thoroughly outlined by Dr. Bristow and supplemented by Dr. Bloom in his report. I just want to mention a few of the highlights with recommendations which I think ought to be emphasized, and which I will endeavor to carry out to the very best of my ability.

The first thought we must all keep in mind is that the reason for our Association, the reason for meetings, and all our activities is to provide better care for the people of Missouri. That is at all times behind everything that we do.

The first thing we are going to try to do now that the war is over—doctors will have a little more leisure, our office force will have more personnel—we hope to get our county societies more active; enable them to have more and better scientific programs, enable them to have programs and discussions of legislative activities and problems of medical economics. We are definitely planning again to have a Councilor District meeting in each Councilor District each year. During the war these have become rather sparse. It seemed impossible to get the groups together except in a few instances. Now we hope to have councilor district meetings in every district each year, and at these meetings, as has been suggested by my predecessor, we want to have a four-fold program: First, a scientific program and then second, legislative discussion of legislative problems that are coming up in the State and National Legislatures. Third, discussion of the social and economic problems that are now before the medical profession. Many doctors back home in rural counties have been so busy that they are somewhat out of touch with what has been going on, and it is our duty and our job to see that they get the information so that they can help work with all the officers of the Association to, as I say, provide better care for everyone in Missouri.

And at these councilor district meetings we also hope to have a public meeting where one of the guests of the councilor district meeting can address a public meeting.

Another activity which has developed the last couple of years, particularly helped by Tom Parry, our public relations consultant, is to get better public relations,

let the people know what the doctors are doing. It isn't enough that we do good work or that we do improved medical care or accomplish things that will provide better care for the people, we must let the people know about it. And public relations is very important in helping get proper legislative laws passed and defeating the ones that we feel will be detrimental to the health of the people in Missouri.

Another big problem we have, of course, is to endeavor to get full medical service to people under better conditions. We know that medical science is high in the United States and in Missouri. It keeps getting a little better all the time. We want to be sure it keeps getting on a higher plane scientifically. But we must improve the distribution both of physicians and of hospital facilities, and we have plans and programs to do this that we think will accomplish it far better than the Federal Legislation that is now proposed in Washington. But we must let the people know what our program is and what it can accomplish and why it will accomplish it better, even though it may take time. It is a thing that will take many years to develop in full.

We all know, of course, the fine work that Blue Cross Hospitalization has done in leveling the cost of hospitalization for people who belong to Blue Cross Hospital Insurance. And during the past year, as you know, we now have our Missouri Medical Service activity. It is still very small, but it is beginning to grow rapidly. We hope to increase the benefits as rapidly as funds make it possible to do so safely so that it will become a wider and wider coverage. But that again will level the expense of medical illness by helping take care of the larger, often called catastrophic illnesses which do hurt many of our patients financially.

At all times I think we must try to prevent the spread of the tendency toward Federal control, not only of medicine itself, but so many activities which we feel belong more rightfully on a local level, either State or community. The Federal Government has many functions which are necessary, but there is a tendency for them to grow, and we know that when it applies to the private practice in medicine—compulsory health insurance program would be detrimental to the quality of care that would be received by the people of Missouri and the whole country. So we must at all times try to prevent that spread of this Federal control, and yet we must be awake to the social and economical problems which have instigated that bill in Congress. If we don't recognize those social and economical responsibilities and provide something in its place that is better, then we haven't done our duty by the people in Missouri.

And finally, I do want to say that I do feel this responsibility very greatly. I am going to do my very best to carry on the fine work of Dr. Bristow and I know I will have him to lean on; whenever I get in trouble he will be right there. As he said, we have been together on the Council for many years and I have the highest regard for his ability and energy, and I know he can be depended on, just as I know that I can depend upon all the officers. And I think I shouldn't sit down without mentioning that I know I can depend particularly on Tom O'Brien, our Executive Secretary who has done such a fine job these years of stress and trouble with inadequate personnel and very difficult problems to handle.

Nomination of President-Elect

DR. FRED B. KYGER, Kansas City: We are in a most critical period in the history of our organization. It behooves us to select a man agressive and experienced. He must be capable of joining the long list of distinguished Presidents to which must now be added the name of Dr. Bristow.

We of Jackson County feel that we have such a man.

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
MERLE Q. HOWARD, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.

ARTHUR J. PATEK, M.D.

G. H. SCHROEDER,
Business Manager

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*





Just Released!

BANYAI'S
The PNEUMOPERITONEUM TREATMENT

by ANDREW LADISLAUS BANYAI, M.D., F.A.C.P., F.C.C.P. Associate Clinical Professor of Medicine, Marquette University Medical School, Milwaukee. 375 pages, 78 illustrations. Price, $6.50

With simple, direct instructions and clear illustrations, this new book equips you to carry out sueeessfully the pneumoperitoneum treatment.

During the past deeade therapeutie pneumoperitoneum has gained a gradually inereasing reeognition and aeceptance. The author feels, therefore, that its technique is a neeessary knowledge, not only for the specialist, but for the general practitioner, especially with regard to the ambulatory patient.

Familiarize yourself now with this important proeedure. Send for your eopy of THE PNEUMOPERITONEUM TREATMENT today!

Synopsis of Contents

Historical Review. Technique of Peritoneum. Physiologic Changes Following. Intraperitoneal Pressure During Treatment. Peritoneal Changes During Pneumoperitoneum. Visceroptosis During Artificial Pneumoperitoneum. Air Embolism as a Complication. Accidental Pneumothorax During Pneumoperitoneum. Mediastinal Emphysema as a Complication of Artificial Pneumoperitoneum. Miscellaneous Complications. Pneumoperitoneum in Treatment of Tuberculous Peritonitis. In Treatment of Tuberculous Enterocolitis. Treatment of Pulmonary Tuberculosis With Artificial Pneumoperitoneum. Miscellaneous Applications. Pneumoperitoneum in Treatment of Tuberculous Empyeme. Treatment of Tuberculous Salpingitis With Pneumoperitoneum. Pneumoperitoneum in Treatment of Bronchial Asthma. In Treatment of Pulmonary Emphysema. Treatment of Bronchiectasis. In Treatment of Pulmonary Hemorrhage of Nontuberculous Origin.

THE C. V. MOSBY COMPANY MJ 7/46
3207 Washington Boulevard
St. Louis 3, Missouri

Gentlemen: Send me immediately a copy of Banyai's new book

THE PNEUMOPERITONEUM TREATMENT

....Attached is my check for $6.50. ....Charge my account.

Dr. .....

Address .....

During his tenure of office he established for the first time executive offices with a paid secretary in charge and we of the Jackson County Medical Society feel that we have one of the outstanding county organizations. In addition to this, he was one of the originators of Blue Cross and one of the original trustees and is still a trustee in this organization.

He is a veteran of World War I and was decorated by both the British and the French governments.

With all of this, he is a quiet, soft-spoken, Christian gentleman and a true Missourian.

I have been told that he has a speech in each coat pocket; on the right in the event of his acceptance and in the left in the event of his rejection. I am sure he will need only the right coat pocket.

In behalf of the delegation from Jackson County, it is my privilege and pleasure to present the name of Dr. Morris B. Simpson, Kansas City, for President-Elect.

Upon motion, duly seconded, the nominations were closed and the Secretary was instructed to cast the unanimous ballot of the House of Delegates for Dr. Morris B. Simpson, Kansas City, for President-elect.

Dr. Simpson was escorted to the platform by Drs. Fred B. Kyger, Kansas City, and J. W. Thompson, St. Louis.

DR. MORRIS B. SIMPSON, Kansas City: I assure each of you, and I think I know most of you, that I deeply appreciate this honor that you have bestowed upon me. I also want to assure you that I will make my very best efforts to carry forth the progressive ideas as they present themselves and also the ideas that are now before this group in order to promote better medicine for the State of Missouri.

REPORT OF THE COMMITTEE ON NOMINATIONS

For Vice Presidents: Dr. Daniel L. Sexton, St. Louis; Dr. Winfred L. Post, Joplin; Dr. G. T. Bloomer, St. Joseph.

For Delegates to the American Medical Association (to complete the term of Delegates who would have been elected in 1945): Dr. R. E. Schlueter, St. Louis; alternate, Dr. H. E. Petersen, St. Joseph; Delegate, Dr. A. S. Bristow, Princeton; alternate, Dr. H. L. Kerr, Crane. (Two year terms): Dr. J. R. McVay, Kansas City, alternate, Dr. W. A. Bloom, Fayette; Delegate, Dr. E. C. Bohrer, West Plains, alternate, Dr. M. Pinson Neal, Columbia.

For Speaker of the House of Delegates: Dr. Ralph E. Duncan, Kansas City; Vice Speaker, Dr. W. S. Sewell, Springfield.

Upon motion, duly seconded, the Delegates to complete the 1945-1946 term, Drs. Schlueter and Bristow, were elected and other officers in the report.

Upon nomination from the floor, Drs. A. R. McComas, Sturgeon, and W. L. Allee, Eldon, were elected by ballot to serve as Delegates for the 1946-1948 term.

DR. A. S. BRISTOW, Princeton: In view of the fact that Dr. James R. McVay, Kansas City, has gone high in the annals of Missouri Delegates to the American Medical Association; in view of the fact that he is a vice chairman of the most active and perhaps the most important committee of the American Medical Association at this time, the Committee on Medical Service and Public Relations, I ask the privilege of resigning as a Delegate to the American Medical Association provided that Dr. McVay be elected by acclamation to the job which you have so considerately given me.

Upon motion, duly seconded, Dr. Bristow's resignation was accepted and Dr. McVay elected by acclamation.

Upon motion, duly seconded, Dr. Bristow was thanked for his considerate action.

DR. CURTIS H. LOHR, St. Louis: I have the honor to submit to you the report of the Special Committee that was appointed by the Council to consider the problems in connection with medical care of veterans. This committee was formulated during the last month and consists of the following members: Drs. D. L. Yancey, Springfield; Leo J. Hartnett, St. Louis; W. J. Shaw, Fayette; J. A. Growdon, Kansas City; and myself. We have tried to give representation to the medical departments of the Army and Navy. We also met with the representative of the Veterans Administration who was here yesterday. After careful consideration the committee has asked to present to you the following resolution:

WHEREAS, The Council of the Missouri State Medical Association appointed a special committee as titled above (Special Committee to Consider the Problem of Medical Care to Veterans) and this committee has proceeded with investigations and surveys, and

WHEREAS, The Committee is not prepared because of the limited time available for making a complete and final report, and

WHEREAS, Time is an important factor, therefore be it

Resolved, That this committee be empowered to proceed and begs the indulgence of the House of Delegates and respectfully requests that authority of adoption or rejection of the Committee's reports and recommendations be delegated to the Council of the Missouri State Medical Association.

Upon motion, duly seconded, the resolution was adopted.

DR. CURTIS H. LOHR, St. Louis: This really does not belong in the order of business at this time, but I want to say a few words concerning your kindness in electing me as your President in absentia during 1945. I had no opportunity under the program to express my appreciation and I want to avail myself of this opportunity to thank you. It was deeply appreciated. While it was the finest office that I have ever held, being the President and having no work to do, I enjoyed it immensely but, nevertheless, I deeply and sincerely appreciate the honor. I will try to make up by working in the ranks for the work I did not have the opportunity of doing while I was your President in absentia.

I am particularly grateful to you gentlemen for thinking of Mrs. Lohr while I was overseas and honoring her as you did at the Kansas City meeting. I assure you it helped our morale a great deal. Thank you very much.

Dr. W. L. Allee, Eldon, gave the report of the Reference Committee on Constitution and By-Laws.

REPORT OF THE REFERENCE COMMITTEE ON CONSTITUTION AND BY-LAWS

The Council recommended the following concerning the remission of dues:

Amend Chapter VIII by adding Section 4 to read as follows:

SECTION 4. For a period ending December 31, 1946, a member of any component society who has served in the armed forces of the United States or of its allies for a period of at least twelve months, may receive an abatement equal to one full year's dues and assessments otherwise due and payable to the Missouri State Medical Association. The member may elect to receive his abatement either in 1946 or 1947.

The committee moves the adoption of this amendment.

Upon motion, duly seconded, the amendment was adopted, and the report of the committee accepted.

Dr. Frank W. Hall, Cape Girardeau, gave the report of the Reference Committee on Resolutions.

REPORT OF REFERENCE COMMITTEE ON RESOLUTIONS

The Reference Committee on Resolutions wishes to report on the resolution concerning the National Physicians Committee which was read at the Sunday session and to recommend its adoption.

Upon motion, duly seconded, the report was adopted.

Dr. Oliver Abel, Jr., St. Louis, gave the report of the Committee on Miscellaneous Affairs.

REPORT OF THE REFERENCE COMMITTEE ON MISCELLANEOUS AFFAIRS

The committee wishes to recommend the adoption of the resolution commending the work of the Community Health League.

The committee recommends the adoption of the resolution concerning modern health services under trained and experienced state health officer.

The committee recommends the adoption of the resolution concerning the maintaining of free enterprise and prevention of political domination of the profession or medicine.

The resolutions, upon motion, duly seconded, were adopted and the report of the committee accepted.

Dr. Fred B. Kyger, Kansas City, gave the report of the Reference Committee on Medical Education and Public Welfare.

REPORT OF THE REFERENCE COMMITTEE ON MEDICAL EDUCATION AND PUBLIC WELFARE

The committee recommends the adoption of the resolution concerning the child health study in Missouri under the direction of the state chairmen of the American Academy of Pediatrics.

The resolution was adopted and the report of the committee accepted.

The Executive Secretary reported the results of the election of Councilors as follow:

First District.....H. E. Petersen, St. Joseph
Second District.....W. F. Francka, Hannibal
Third District.....J. W. Thompson, St. Louis
Fourth District.....Otto Koch, St. Louis
Fifth District.....J. F. Jolley, Mexico
Sixth District.....R. W. Kennedy, Marshall
Seventh District.....C. Edgar Virden, Kansas City
Eighth District.....Wallis Smith, Springfield
Ninth District.....E. C. Bohrer, West Plains
Tenth District.....Paul Baldwin, Kennett

The minutes of the Council meetings of March 25 and 26 (page 483) were read and approved.

Dr. J. W. Thompson, St. Louis: I cannot let this occasion pass without calling the attention of the House of Delegates here assembled to the fact that the Chairman of your Council, ever since my association with it, will no longer be a member of that body, and I wish at this time to make public acknowledgment of the high regard in which I personally, and I am sure this feeling is that of the other members of the Council of your Association, hold Dr. Bloom for the work he has done in the interest of the Missouri State Medical Association. The job of being chairman of the Council is a difficult one. Dr. Bloom has conducted himself, to my knowledge, at all times with the spirit of fairness, with a high standard of personal integrity, with a deep regard for the interest of all the doctors throughout the State of Missouri. He has not at any time been a political conniver, a man to seek favors for any section of this state, and inasmuch as he will no longer be with us, I personally move, Mr. Speaker, that this organization rise as a manifestation of their appreciation for the work done by Dr. Bloom.

The members of the House of Delegates rose.

Upon motion, duly seconded, the House of Delegates adjourned sine die.

MISSOURI STATE MEDICAL ASSOCIATION REGISTRATION AT EIGHTY-EIGHTH ANNUAL SESSION

First Councilor District —17

Bloomer, G. T., St. Joseph
Booth, Herbert R., Hamilton
Bristow, A. S., Princeton
Byrne, John I., St. Joseph
Chiarottino, Joseph F., St. Joseph
Dowell, George, Braymer
Dowell, Horace S., Chillicothe
Grace, Clarence M., Chillicothe
Grant, C. S., St. Joseph
Hopson, George, St. Louis
Jackson, W. R., Maryville
Petersen, H. E., St. Joseph
Rost, Wm. B., St. Joseph
Spencer, Floyd, St. Joseph
Wadlow, E. E., St. Joseph
Werner, C. H., St. Joseph
Wortley, Cabray, St. Joseph

Second Councilor District 21

Barnett, F. A., Paris
Barrymore, Eugene, Bowling Green
Bridges, J. R., Kahoka
Fleming, Thos. S., Moberly
Francka, W. F., Hannibal
Freeman, Spencer L., Kirksville
Goodrich, H. B., Hannibal
Green, H. L., Hannibal
Hawkins, G. W., Salisbury
Jennings, P. W., Canton
Lewellen, Charles P., Louisiana
Luman, F. E., Edina
McArtor, T. R., Browning
McCormick, F. L., Moberly
Roselle, T. A., Palmyra
Streetor, R. D., St. Louis
Sultzman, Francis E., Hannibal
Well, J. W., Palmyra
Wimp, J. J., Kirksville
Wood, Adolph M., Shelbina
Worth, D. S., Kirkwood

Third Councilor District 222

Abel, Oliver, Jr., St. Louis
Agress, Harry, St. Louis
Allen, Hollis N., St. Louis
Allen, Henry, St. Louis
Allen, Duff S., St. Louis
Althaus, Carl J., St. Louis
Andrews, R. K., St. Louis
Arbuckle, M. F., St. Louis
Arneson, A. N., St. Louis
Barnhart, W. T., St. Louis
Baron, Michael E., St. Louis
Barrett, Ralph M. S., St. Louis
Bartlett, Robert W., St. Louis
Bassman, Roland S., St. Louis
Beam, Sim F., St. Louis
Bell, Robert M., St. Louis
Benjamin, Durand, St. Louis
Berg, Ralph L., St. Louis
Berger, Edward J., St. Louis
Boemer, Irving H., St. Louis
Bohne, Wm. R., St. Louis
Bowerman, Harold H., St. Louis
Broun, G. O., St. Louis
Bublis, Norbert J., St. Louis
Buddy, E. P., St. Louis
Burford, Cyrus E., St. Louis
Burford, E. H., St. Louis
Carroll, George A., St. Louis
Cassidy, L. D., St. Louis
Conrad, A. H., St. Louis
Copher, Glover H., St. Louis
Cutler, Harry, St. Louis
Dalton, A. R., St. Louis
Davis, Frank L., St. Louis
Devine, John B., St. Louis
Dorsett, E. Lee, St. Louis
Doyle, Wm. J., St. Louis
Drace, Charles C., St. Louis
Dripps, Roy C., St. Louis
Edwards, Edwin D., St. Louis
Edwards, Joseph C., St. Louis
Eidelman, Jack R., St. Louis
Eisele, Mathew B., St. Louis
Elman, Robert, St. Louis
Elmer, Warren P., St. Louis
Engleman, R., St. Louis
Ernst, Edwin C., St. Louis
Ferris, Joseph L., St. Louis
Fineberg, Max., St. Louis
Fischel, Walter, St. Louis
Fitzgerald, Leo P., St. Louis
Flavan, David B., St. Louis
Fleishman, Alfred, St. Louis
Fletcher, Paul, St. Louis
Foster, Howard M., St. Louis
Fries, Armand D., St. Louis
Gafney, George T., St. Louis
Gallagher, W. J., St. Louis
Glassberg, Bertrand, St. Louis
Glaze, Kenneth F., St. Louis
Glenn, Joseph E., St. Louis
Gorla, Wayne O., St. Louis
Gradwohl, R. B. H., St. Louis
Graham, Evarts, St. Louis
Graves, Wm. W., St. Louis
Grogan, Frank M., St. Louis
Gronau, Axel R., St. Louis
Gross, Joseph L., St. Louis
Hall, Robert A., St. Louis
Hamilton, C. K., St. Louis
Hammond, John J., St. Louis
Hansel, French K., St. Louis
Hanser, Theo H., St. Louis
Hardy, Joseph A., Jr., St. Louis
Harris, Downey L., St. Louis
Hartmann, A. F., St. Louis
Hartnett, Leo K., St. Louis
Hassett, Henry A., St. Louis
Helbing, H. H., St. Louis
Hennerick, Walter E., St. Louis
Henske, Andrew C., St. Louis
Hewitt, Walter, St. Louis
Hickey, R. F., St. Louis
Hines, Paul, St. Louis
Hoefer, Walter H. V., St. Louis
Holdenried, Wm. E., St. Louis
Hutton, Joseph Lewis, St. Louis
Hyndman, Charles E., St. Louis
Javaux, Eeverett J., St. Louis
Jones, Otey S., St. Louis
Jorstad, L. H., St. Louis
Kane, R. Emmet, St. Louis
Kelly, Marshall W., St. Louis
Kelly, R. Emmet, St. Louis
Kienzle, Edward C., St. Louis
Kinsella, Ralph A., St. Louis
Kirchner, Walter C. G., St. Louis
Kotner, Lawrence M., St. Louis
Klein, Arnold G., St. Louis
Klein, Bert H., St. Louis
Klenk, Charles L., St. Louis
Kountz, Wm. B., St. Louis
Kouri, Martin, St. Louis
Kramer, Fred, St. Louis
Kramolowsky, H. H., St. Louis
Krebs, Frank J. V., St. Louis
Kurz, R. F., St. Louis
Lane, Clinton W., St. Louis
Larsen, K. V., St. Louis
Lawrence, John V., St. Louis
Lee, E. J., Jr., St. Louis
Leighton, W. E., St. Louis
Lohr, Curtis H., St. Louis
Luedde, Wm. H., St. Louis
Luedde, Phillip S., St. Louis
Luten, Drew, St. Louis
Luton, L. S., St. Louis
McCaughan, John M., St. Louis
McGinnis, Byron J., St. Louis
Macnish, James M., St. Louis
Macko, Joseph R., St. Louis
Massie, Edward, St. Louis
Max, C. O. C., St. Louis
Max, P. F., St. Louis
Mayer, Leo L., St. Louis
Melick, W. F., St. Louis
Mendosa, L. E., St. Louis
Mezera, Raymond A., St. Louis
Michael, Vernon E., St. Louis
Miller, Dan Tucker, St. Louis
Miller, Charles W., St. Louis
Miller, W. Jackson, St. Louis
Moeller, C. E., St. Louis
Moore, Neil S., St. Louis
Moore, Robert A., St. Louis
Morfit, John C., St. Louis
Morris, Mary E., St. Louis
Moskop, Peter G., St. Louis
Mudd, James L., St. Louis
Muether, Raymond O., St. Louis
Munsch, Girard A., St. Louis
Neilson, Arthur W., St. Louis
Neilson, C. H., St. Louis
Nester, G. A., St. Louis
Norton, Wm. H., St. Louis
O'Neill, John B., St. Louis
Oppenheimer, Henry E., St. Louis
Olmsted, Wm. H., St. Louis
Pelz, Mort D., St. Louis
Pernoud, F. G., St. Louis

Pernoud, F. G., Jr., St. Louis
Ploehn, Emma, St. Louis
Pollock, Ellis L., St. Louis
Powell, Earl A., St. Louis
Powell, Rudolph V., St. Louis
Pulliam, M. J., St. Louis
Raemdonck, A. J., St. Louis
Ramos, Raoul L., St. Louis
Reim, Hugo, St. Louis
Rendleman, George E., St. Louis
Rose, D. K., St. Louis
Rosenfeld, Henry, St. Louis
Rosenfeld, Herman J., St. Louis
Ruddell, George W., St. Louis
Ruhling, Rudy, St. Louis
Russell, Alexander L., St. Louis
Sale, Llewellyn, St. Louis
Sante, L. R., St. Louis
Sauer, W. E., St. Louis
Schlosstein, A. G., St. Louis
Schlueter, R. E., St. Louis
Schneider, N. A., St. Louis
Schnoebelen, Paul, St. Louis
Scholz, Roy P., St. Louis
Schuchat, W. L., St. Louis
Schwartz, F. O., St. Louis
Seddon, John W., St. Louis
Sexton, Daniel L., St. Louis
Shreffler, A. R., St. Louis
Shutt, Cleveland H., St. Louis
Signorelli, A. J., St. Louis
Simon, Jerome, St. Louis
Simpson, Guy, St. Louis
Smith, Frank J., St. Louis
Smith, Herbert, St. Louis
Smith, J. Earl, St. Louis
Spector, H. I., St. Louis
Spinzig, Edgar W., St. Louis
Spivy, R. M., St. Louis
Steinberg, Franz U., St. Louis
Stindel, C. E., St. Louis
Stolar, Jacob, St. Louis
Strauss, Arthur E., St. Louis
Stroud, C. Malone, St. Louis
Stubbs, James B., St. Louis
Stutsman, Albert C., St. Louis
Tainter, Frank J., St. Louis
Tess, Melvin, St. Louis
Thompson, Lawrence D., St. Louis
Thompson, J. W., St. Louis
Thompson, Ralph L., St. Louis
Thym, Henry P., St. Louis
Titterington, Paul F., St. Louis
Tjoflat, Oliver E., St. Louis
Uhlemeyer, H. A., St. Louis
Uhlemeyer, H. A., Jr., St. Louis
Veeder, Borden S., St. Louis
Vogel, Eugene R., St. Louis
Vogt, Wm. H., Jr., St. Louis
Vohs, Carl F., St. Louis
Wade, Leo J., St. Louis
Weiss, R. S., St. Louis
Werner, A. A, St Louis
White, O O., St. Louis
Wiatt, Wm. S., St. Louis
Wilcox, Claude V., St. Louis
Wood, William George, St. Louis
Wood, V. V., St. Louis
Zahorsky, John, St. Louis
Zeinert, Oliver B., St. Louis
Zeitler, Wm. T., St. Louis
Zink, Oscar C., St. Louis

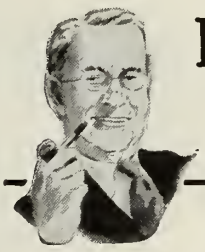
Fourth Councilor District—71

Armstrong, John H., Kirkwood
Backlar, Joseph, St. Louis
Berwald, Irvin L., University City
Breckenridge, Elmer O., St. Louis
Bromberg, Leon, St. Louis
Brown, E. R., St. Louis
Brossard, P. M., St. Louis
Clay, Calvin, St. Charles
Commerford, James J., Crystal City
Compton, James R., St. Louis
Cooper, J. M., St. Louis
Daly, John R., St. Louis
Davis, M. W., Brentwood
Denny, Robert B., Creve Coeur
Diamond, Jerome, St. Louis
Duckworth, Wm. H., St. Clair
Dyer, Clyde P., St. Louis
Eyermann, H. W., Warrenton
Fallet, Chas. E., DeSoto
Finley, Freeman L., Overland
Forsman, Waldo W. Jr., St. Louis
Furlong, R. D., St. Louis
Gage, Helen, Webster Groves
Gilliland, C. E., St. Louis
Graeser, Richard G., St. Louis
Hale, Tyre H., St. Louis
Hampton, O. P., Jr., St. Louis
Hayward, John D., St. Louis
Hendin, Aaron, St. Louis
Hobbs, Clarence, St. Louis
Hofsommer, A. C., Webster Groves
Huck, Frank, St. Louis
Irick, C. C., St. Louis
Jacobs, Gustave, St. Louis
Jensen, Julius, St. Louis
Johnson, Grover C., Marthasville
Jones, Garnett, St. Clair
Kemp, Thomas J., St. Louis
Kendis, J. B., St. Louis County
Kettelkamp, G. D., St. Louis
Koch, Otto W., St. Louis
Koch, Robert E., Clayton
Leslie, Charles H., Kirkwood
Levey, S. A., St. Louis
McGavran, E. G., St. Louis County
Mays. Frank G., Washington
Mendonsa, Elsa L., St. Louis
Moore, Carl V., St. Louis
O'Connell, John, St. Louis County
Phillips, Hanford. St. Louis
Pickel, John W., Kirkwood
Prichard, J. A., St. Louis
Reinhard, E. H., St. Louis
Romendick, Samuel S., Koch
Rutledge, John F., Crystal City
Scheele, M. H., University City
Schmidt, Herbert H., Marthasville
Steiner, A. J., St. Louis
Sterling, John A., St. Louis
Stern, Franz. Clayton
Stoelzle, J. D., Kirkwood
Strehlman, B. G., Union
Townsend, James A., Eureka
Vitale, N. S., St. Louis
Vizzaird, J. J., St. Louis
Walther, Roy, Overland
Waters, E. B., Kirkwood
Weinel, Francis G., Webster Groves
Westrup, A. W., Webster Groves
Whitener, Paul R., St .Louis
Zinschlag, Edward N., St. Louis

Fifth Councilor District—39

Adams, C. F., Jefferson City
Aldridge, M. R., Jefferson City
Alee, W. L., Eldon
Anderson, E. J. T., Montgomery City
Baker, James M., Columbia
Bloom, W. A., Fayette
Bruce, James G., Jefferson City
Burke, J. P., Jr., California
Conley, Dulley S., Columbia
Cooker, Maurice E., Columbia
Crouch, Richard L., Columbia
Dwyer, Thomas L., Vandalia
Garner, Lynn M., Jefferson City.
Gillham, Frank W., Jefferson City
Griffin, Fred, Mexico
Guvot, J. DeVoine, Jefferson City
Harrison, J. F., Mexico
Jolley, J. F., Mexico
Lemone, David, Columbia
Leslie, J. T., Jefferson City
McCall, W. K., Laddonia
McComas, A. R., Sturgeon
McHaney, John W., Jefferson City
Neal, M. Pinson, Columbia
Nienstedt. E. J., Sikeston
Nifong, Frank G., Columbia
Ossman, J. A., Jefferson City
Overholser, M. D., Columbia

Advertisement



From where I sit *by* Joe Marsh

Dr. Hollister and the Streamlined House

The other day a construction firm set up an exhibit in the courthouse square. They built a new "house of the future"—and invited folks to come and see it.

Drew quite a crowd—with the women sighing over the shiny kitchen, and the men admiring the new kind of heating unit and the insulation.

All except Dr. Hollister. He looks around a spell and goes home. When I get there, he's sitting before his old Dutch fireplace, with his feet on the screen, and holding a mellow glass of beer in his hand.

"You know," he says, "it takes a heap of living to make a home."

Looking around, I see what he means. A room crowded with memories of a life well spent—and the friendly habits of a happy home, from the old-fashioned fireplace, to a mellow glass of beer with friends. From where I sit, those things do more to make a home than modern streamlined gadgets.

Joe Marsh

Copyright, 1946, United States Brewers Foundation



ALL THE NUTRIENTS

Essential for a Food Supplement

Whenever the intake of essential nutrients must be augmented, as in convalescence from surgery or infectious disease, or in the correction of malnutrition, the delicious food drink which results from mixing Ovaltine with milk can be of significant value. This palatable food supplement provides a wealth of essential nutrients in a pleasant, easily assimilated form. It supplies protein of high biologic value, readily metabolized carbohydrate, easily emulsified fat, ascorbic acid, B complex and other vitamins, as well as essential minerals. Three glassfuls daily sharply augments the intake of these nutrients, as shown by the table of composition. Its low curd tension makes for rapid gastric emptying, hence appetite for the next meal is not interfered with. This delicious food drink is enjoyed both as a mealtime beverage and between meals.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



Ovaltine

Three servings daily of Ovaltine, each made of ½ oz. of Ovaltine and 8 oz. of whole milk,* provide:

CALORIES	669	VITAMIN A	3000 I.U.
PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
FAT	31.5 Gm.	RIBOFLAVIN	1.50 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	6.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

*Based on average reported values for milk.

Robnett, Dudley A., Columbia
Schopp, A. C., Columiba
Shaw, W. J., Fayette
Stauffer, H. B., Jefferson City
Stewart, Wr. J., Columbia
Summers, J. S., Jefferson City
Van Ravenswaay, A. C. H., Boonville
Varian, Thelma S., Columbia
Washburn, J. L., Versailles
Wood, George F. Fulton
Young, W. McC.. Columbia

Sixth Councllor District —21

Aiken, George A., Marshall
Campbell, A. J., Sedalia
Damron, O. H., Warrensburg
Davis, C. Braxton, Nevada
Dyer, D. P., Sedalia
Hanks, Ralf, Nevada
Hansen, Arthur L., Appleton City
Haynes, B. C., Marshall
Hite, H. A., Grand Ridge
Koppenbrink, W. E., Higginsville
Logan, James A., Warsaw
Long, David S., Harrisonville
McBurney, C. A., Slater
Maples, Floyd H., Marshall
Martin, W. E., Odessa
Parker, Harry F., Warrensburg
Shy, M. P., Sedalia
Smith, James O., Clinton
Tracy, H. A., Belton
Walker, S. L., Sedalia
Wray, R. B., Nevada

Seventh Councilor District—18

Altringer, A. N., Kansas City
Asher, Arthur G., Kansas City
Buckingham, William, Kansas City
Byers, Philip L., Kansas City
Carrier, Edson C., Kansas City
Cochrane, Jos. J., Kansas City
Culbertson, Wm. F., St. Louis
Duncan, Ralph E., Kansas City
Dwyer, Hugh L., Kansas City
Elliott, B. Landis, Kansas City
Eubank, A. E., Kansas City
Gilkey, H. M., Kansas City
Gist, W. L., Kansas City
Goldman, Max, Kansas City
Graham, Wallis H., Washington, D. C.
Greene, W. W., Kansas City
Growdon, John A., Kansas City
Hoffmann, R. Lee, Kansas City
Hoffman, Jacob S., Kansas City
Hogue, F. S., Kansas City
Hunt, Claude J., Kansas City
Jennett, J. H., Kansas City
Jones, T. R., Kansas City
Kyger, Fred B., Kansas City
Lapp, Harry C., Kansas City
McAlester, A. W., Jr., Kansas City
McAlester, A. W., Kansas City
McVay, James R., Kansas City
Mantz, Herbert L., Kansas City
Major, Herman S., Kansas City
Montgomery, James G., Kansas City
Mould, Ward, Kansas City
O'Neil, James H., Memphis, Tenn.
Owens, Patrick H., Kansas City
Richardson, L. R., Kansas City
Ridge, Frank I., Kansas City
Robinson, G. Wilse, Kansas City
Robinson, G. W. Jr., Kansas City
Shapiro, Lazare M., Kansas City
Simpson, Morris B., Kansas City
Sinclair, Alexander B., Kansas City
Snider, Sam H., Kansas City
Stockwell, A. L., Kansas City
Summers, Caldwell B., Kansas City
Thiessen, Edward H., Kansas City
Trippe, H. C., Kansas City
Virden, C. Edgar, Kansas City
Williams, Vincent T., Kansas City

Eighth Councilor District —36

Adler, Alfred, Mt. Vernon
Barnett, C. H., Bolivar
Black, M. H., Joplin
Brashear, Charles A., Mt. Vernon
Cheek, W. C., Springfield
Coffelt, K. C., Springfield
DeTar, B. E., Joplin
Douglas, J. W., Webb City
Ferrell, T. Enoch, Springfield
Fujikawa, Y. F., Mt. Vernon
Glasco, L. A., Urbana
Glenn, E. E., Springfield
Glover, Kenneth, Mt. Vernon
Hargrove, Fred Monett
Harris, Thomas S., Springfield
H'Doubler, F. T., Springfield
James, Jos. D., Springfield
James, R. M., Jefferson City
Johnston, J. L., Springfield
Kerr, H. L., Crane
Laney, R. L., Joplin
Lowe, H. A., Springfield
MacDonnell, C. R., Marshfield
Meinershagen, C. W., Webb City
Newkirk, R. C., Joplin
Newman, George W., Cassville
Pickett, Frank, Aurora
Plummer, G. C., Buffalo
Reid, C. T., Joplin
Sewell, W. S., Springfield
Silsby, Don J., Springfield
Smith, W. Wallis, Springfield
Smith, C. Souter, Springfield
West, William, Monett
Wilbur, H. L., Joplin
Yancey, D. L., Springfield

Ninth Council District—23

Bohrer, E. C., West Plains
Breuer, Wm. H., St. James
Breuer, R. E., Newburg
Callihan, C. F., Willow Springs
Cotton, T. W., Van Buren
Davis, H. H., Rolla
Drake, A. A., Rolla
Edens, L. M., Cabool
Hammler, C. V., St. James
Harrell, R. E., Lebanon
Henson, L. L., Bunker
Hogg, Garrett S. Jr., Cabool
Horne, A. H., Steelville
Jenkins, P. A., Lebanon
Joseph, G. E., Salem
Knowles, Roy F., Rolla
Randall, Leslie, Licking
Ray, Richard H., St. Louis
Reed, R. W., Richland
Ryan, R. A., Mountain Grove
Scott, E. A., St. James
Smith, Rollin H., West Plains
Underwood, M. R., Rolla

Tenth Councilor District —25

Baldwin, Paul, Kennett
Barron, W. H., Fredericktown
Bugg, A. F., Ellington
Bull, Ben M., Ironton
Carron, Oscar A., Perryville
Cope, Edwin G., Hornersville
Dorris, George T., Illmo
Estes, A. M., Jackson
Finney, W. O., Chaffee
Hall, Frank, Cape Girardeau
Hunt, John W., Leadwood
Killion, John J., Portageville
Kneibert, F. L., Poplar Bluff
Koon, B. T., St. Louis
Luten, J. B., Caruthersville
Mitchell, S. E., Malden
Oehler, William F., Cape Girardeau
Sarno, S. W., Morehouse
Sexauer, A. E., Ste. Genevieve
Sparhawk, Wm. Jr., Cape Girardeau
Spence, E. L., Kennett
Sutton, C. E., Bonne Terre
Taylor, Van Wm., Bonne Terre
Wilkens, John A., St. Mary's
Yeargain, J. P., Irondale

Guest Speakers—6

Buckley, R. Forder, St. Louis
Donnelly, Gov. Phil M., Jefferson City
Hamilton, Burton E., Boston
Harding, J. C., Washington, D. C.
Myers, Jay Arthur, Minneapolis
White, Paul D., Boston

Visiting Physicians—84

Alea, Morris F., St. Louis
Althaus, Carl, Jr., St. Louis
Ayre, James, Iowa City, Iowa
Barton, P. F., St. Louis
Benage, C. H., Pittsburgh, Kansas
Bilfendtnicholls, W. H., St. Louis
Blackman, Nathan, St. Louis
Boswell, Robert W., Hammond Lake, Ind.
Brandt, B. F., Foristell, Mo.
Brown, W. W., Collinsville, Ill.
Otto, Carl, Marseilles, France
Cassel, M. A., Alton, Ill.
Charvat, Thomas F., Cleveland, Ohio
Christman, John, Iowa City, Iowa
Cline, Hubert, Iowa City, Iowa
Corbin, J. J., East Alton, Ill.
Cramer, A. E., St. Louis
Darrow, Frank, Iowa City, Iowa
Doyle, C. R., St. Louis
Durante, Bond, Jefferson Barracks
Elliott, W. H., St. Louis
Evans, F. D., Conway Springs, Kansas
Freiheit, H. J., Peoria, Ill.
Frick, D. C., Toledo, Ohio
Gallagher, F. G., LaCrosse, Wis.
Germaine, Andre, Paris, France
Gnose, E. D., St. Louis
Goodman, Max, Boston, Mass.
Grau, H. J., Iowa City, Iowa
Hall, F. W., Winfield, Kansas
Hanssman, I. J., Jefferson Barracks
Harrell, J. G., Carmi, Ill.
Herman, Morris, St. Louis
Hester, E. G., Saginaw, Mich.
Hibbert, R. M., Clayton
Hofstatter, L., St. Louis
Howa, Gerald, Iowa City, Iowa
Howard, David S., Houston, Texas
Howard, Stanley, Waco, Texas
Huber, T. E., St. Louis
Ide, L. W., Jefferson Barracks
Johnston, J., Iowa City, Iowa
Kalish, John, St. Louis
Kendall, E. A., St. Louis
Kingsland, Robert C., St. Louis
Koven, Arthur L., Bethesda, Md.
Krupp, D. D., Brooklyn, N.Y.
Loid, H. O., St. Louis
Loo, Yenchin, St. Louis
Lundgren, Fred, St. Louis
McCanse, R. A., Kansas City
McDeown, Geo. H. C., Brooklyn, N. Y.
Maloney, H. P., Oakland, Calif.
Meisner, Fred M., Peoria, Ill.
Merkert, Charles E. Minneapolis, Minn.
Mester, Sarah, Mt. Sterling, Ill.
Mitschke, J. J., Helena, Mo.
Nelson, P. W., St. Louis
Norris, G. L., Winfield, Kan.
O'Brien, J. R., Bolivar
Pfeiffenberger, M., Alton, Ill.
Pollock, Leo H., Patterson Field, Ohio
Purcell, H. K., St. Louis
Reid, P. E., Sparta, Ill.
Schechter, Sam E., St. Louis
Schiff, B., Excelsior Springs
Schmidt, E. M., St. Louis
Schulz, C. G., St. Louis
Shepard, R. M., Tulsa, Okla.
Silverberg, Charles, St. Louis
Smith, J. E., Rolla, Mo.
Solomon, Earl G., Cincinnati
Spitzer, Ernest, St. Louis
Steyer, C. E., Cleveland, Ohio
Strassman, Bernard, New Athens, Ill.
Thompson, A. K., Rochester, Minn.
Tritt, J. H., St. Louis
Tuckman, J., St. Louis
Van Hook, Henry M., Webster Groves
Webster, F. S., Springfield
Wester, E. A., Mt. Sterling
Weyerich, Leon F., St. Louis
Williams, M., Alton, Ill.
Wolff, S. J., St. Louis

Visitors—19

Bartleson, W. H., Kansas City
Crofts, Virginia, St. Louis
Doerle, Sally, Maplewood
Dwyer, Mrs. T. L., Vandalia
Elliott, Mrs. W. H., St. Louis
Finan, Margaret, St. Louis
Kraleman, Bertha, St. Louis
Krems, Abraham D., Kirksville
Levy, Mr., Oakland, Calif.
Loranz, C. P., Birmingham, Ala.
McGann, Leona, St. Louis
Mueller, E. B., St. Louis
Munsch, Mrs. M. E., St. Louis
Nelson, Olava T., St. James
Pratt, Donald E., St. Louis
Robinson, Marcia, St. Louis
Schmidt, Edwin A., St. Louis
Smith, Charles K., St. Louis
Zimmerman, Abe, St. Louis

Exhibitors—181

Allen, M. M., St. Louis
Allen, Paul T., St. Louis
Archbold, J. M., Chicago, Ill.
Atwater, R. C., St. Louis
Ayer, W. C., Chicago, Ill.
Backlar, Byron, Richmond Heights
Badgett, Jamie F., St. Louis
Baker, Ken, Fremont, Mich.
Barone, Anthony J., Chicago, Ill.
Bauman, C. S., St. Louis
Bear, Ben L., St. Louis
Beatty, L. B., St. Louis
Bellville, Byron, St. Louis
Bennett, Otis V., Kirkwood
Bentley, S. V., Chicago, Ill.
Bergen, Al, St. Louis
Beyreuther, Paul, St. Louis
Bialock, Harold, St. Louis
Blackburn, Fred, Linden, N.J.
Blankenbaker, H. L., St. Louis
Blum, Fred A., Kansas City
Breckenkamp, A. W., St. Louis
Bresnan, J. J., St. Louis
Brookfield, Inez, Chicago, Ill.
Brown, A. Elmore, St. Louis
Burchfiel, E., St. Louis
Cameron, D. Alex S., Chicago, Ill.
Cherry, C. H., St. Louis
Clark, Chas. H., Buffalo, N. Y.
Clark, Mrs. Chas. H., Buffalo, N. Y.
Clark, Helen, St. Louis
Clayborne, Nina, St. Louis
Cleary, Leo A., St. Louis
Co. John M., Philadelphia, Pa.
Cramblet, L. H., St. Louis
Daly, T. Reed, Chicago, Ill.
Daly, Virginia, Clayton
Danforth, Frank, St. Louis
Danforth, F. A., St. Louis
Davis, E. D., West Newton, Mass.
Davis, L. E., Chicago, Ill.
Delaney, S. A., Orange, N. J.

De Pictro, J. T., Philadelphia, Pa.
Doyle, Gerald, Kansas City
Dumas, E. L., St. Louis
Dumas, Mrs. E. L., St. Louis
Eckhardt, C. Ted, St. Louis
Fransworth, M. G., Chicago, Ill.
Fay, Earl, St. Louis
Ferris, Harry, St. Louis
Florian, Roland, St. Louis
Fortin, E. C., Chicago, Ill.
Fossieck, Byron E., St. Louis
Fox, Byron, Kansas City
Frost, J. D., St. Louis
Gaffney, S. A., Rahway, N. J.
Geller, Harry, St. Louis
Giesering, W. H., St. Louis
Giffin, S. E., Columbus, Ohio
Gilbert, Wallace R., St. Louis
Gillies, H. C. Jr., Kansas City
Goss, J. L., Kansas City
Grabenschroer, Fred W., St. Louis
Graebner, Paul, Kansas City
Grant, J. L., Chicago, Ill.
Hamilton, M. C. S., St. Louis
Hampe, Joe, St. Louis
Hanley, Edmund F., St. Louis
Hanley, Mrs. Edmund F., St. Louis
Harrold, Chas., St. Louis
Harrold, C. M. Jr., St. Louis
Hearst, Wm., St. Louis
Hinse, John, New York, N.Y.
Horlock, R. J., Chicago, Ill.
House, E. V., Springfield, Mo.
Hummel, Francis, St. Louis
Hutchinson, Betty, St. Louis
Ilg., C. J., St. Louis
Iungerich, F. L., St. Louis
Jenkins, John, St. Louis
Jennings, W. S., Chicago, Ill.
Johnson, Chas. F., Kansas City
Johnson, R. J., St. Louis
Kemper, A. H., St. Louis
Kidwell, Basil, Chicago, Ill.
Kieffer, M. J., Detroit, Mich.
Kincaid, E. M., St. Louis
Kindt, Mrs. Leota, New Haven, Conn.
Lahey, Harry, St. Louis
Lansberg, Frank, St. Louis
Lawton, A. W., Chicago, Ill.
Leahy, Crawford, St. Louis
Leggett, C. A., St. Louis
Lence, F. J., St. Louis
Lieder, A. J., St. Louis
Lind, Wm., St. Louis
Lipsky, Eugene C., Kansas City
Litherland, P. L., Kirkwood
Lloyd, R. W., St. Louis
Lott, D., St. Louis
Loudermilk, R. A., St. Louis
Lubin, Geo. H., Chicago, Ill.
Luly, H. L., St. Louis
Lytle, C. J., Rochester, N. Y.
McBride, H., St. Louis
McCausland, E. A., St. Louis
McKnight, Ruth, St. Louis
MacDouglas, P. S., St. Louis
Marcelle, Chas., St. Louis
Matt, R. W., St. Louis
Melhinch, Seth L., Kansas City
Mendenhall, N. R., St. Louis
Mitchell, Vernon C., Newark, N. J.
Moore, Edith, St. Louis
Morris, R. T., San Antonio, Texas
Mueller, Frank, St. Louis
Nehring, Fred W., St. Louis
Nichols, Owen, Cincinnati, Ohio
Nickel, K. G., St. Louis
Nooner, T. A., Orange, N. J.
Norman, Wm. R., St. Louis
Oberst, Pete, St. Louis
Parsons, Alvin J., New York, N. Y.
Patterson, H. L., St. Louis
Pesley, Clyde W., St. Louis
Pfau, Robert, St. Louis
Pingree, Hazel, St. Louis
Pruett, Helen Gorham, St. Louis
Regan, George A., Webster Groves
Ritzen, C. A., St. Louis
Ritzen, Frank, Springfield, Mo.
Rozema, H., Chicago, Ill.
Rustenbeck, G. J., St. Louis
Sack, Adam A., St. Louis
Schackmann, A. A., St. Louis
Schick, Peter, St. Louis
Schmidt, Frank, St. Louis
Schmidt, Oscar, St. Louis
Schultes, A. A., St. Louis
Schultz, Walter, Kansas City
Scott, George E. Jr., Linden, N. J.
Searle, Fred W., St. Louis
Sears, W. D., Chicago, Ill.
Siebrandt, J. R., Kansas City
Siers, Richard, New York, N. Y.
Simmons, B. E., Indianapolis, Ind.
Singleton, George W., Webster Groves
Smith, H. P., St. Louis
Smith, Nick, St. Louis
Smith, Norman R., St. Louis
Smithson, Clarence, Newark, N. J.
Squires, A. B., St. Louis
Stallann, W. C., St. Louis
Steele, C. F., St. Louis
Steffey, Thelma, Chicago, Ill.
Suding, Carl, Chicago, Ill.
Suhrheinrich, W. H., St. Louis
Suppiger, W. B., Webster Groves
Szukalla, Bernice T., Chicago,
Tedd, C. H., St. Louis Ill.
Templar, Gordon, Covington, Ky.
Thompson, Ed, Webster Groves
Thurman, J. D., St. Louis
Tilford, E. L., St. Louis
Trauten, Paul L., Chicago, Ill.
Tschudy, B. F., St. Louis
Veazey, A. W., Kirkwood
Vowell, B. H., St. Louis
Wasem, O. A., St. Louis
Washburn, F., Chicago, Ill.
Wass, John A., Chicago, Ill.
Wendling, George, Omaha, Nebr.
Wheelhouse, Vincent R., St. Louis
White, E. W., Kansas City
Whittington, B. M., St. Louis
Wilson, G. J., St. Louis
Winkelmann, C. H., St. Louis
Wohlwend, C. J., St. Louis
Wolff, Steve, St. Louis
Wright, L. L., St. Louis
Wyly, W. J., Kansas City
Total—813.

PSYCHONEUROSIS OFTEN MISTAKEN FOR SHELL SHOCK

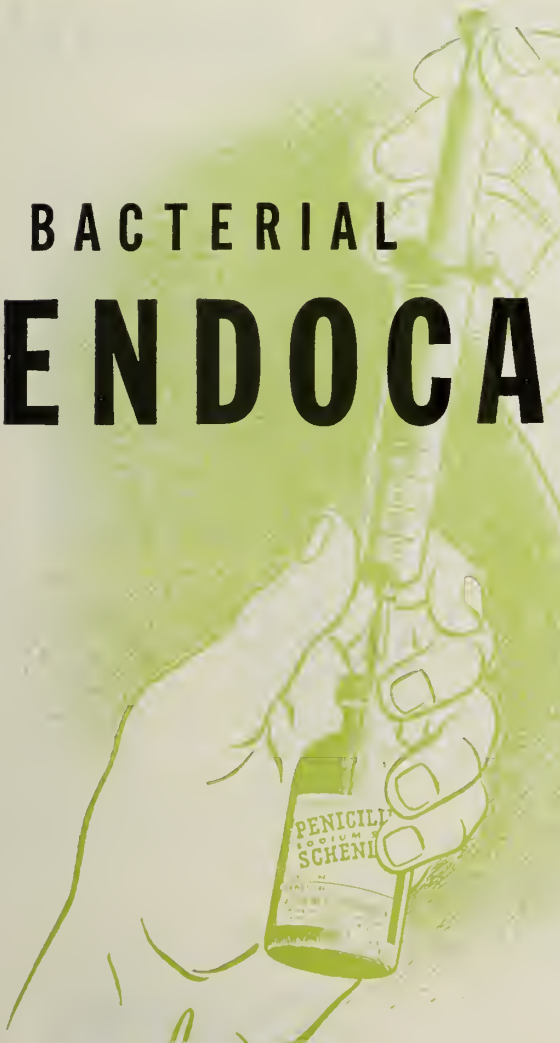
Bombs exploding near a person in the open will not damage the brain or the nervous system, according to a study made by Comdr. Robert S. Schwab, (MC), U. S. N. R., writing in the May 11 issue of *The Journal of the American Medical Association.*

Included in Comdr. Schwab's study are 350 patients observed in the Pacific theatre during 1944 and 1945. They were admitted to naval hospitals with a diagnosis of concussion of the brain. All had been near either a bomb or shell when it exploded.

The author states that over 90 per cent of the so-called air blast concussion cases are psychoneurotic states produced in men by exhaustion and anxiety. "There is no evidence from the observations that I made in these cases of damage to the brain or nervous system."



BACTERIAL ENDOCARDITIS



No. 1 in Schenley Laboratories' continuing summary of Penicillin Therapy

Penicillin is the best agent available for the treatment of subacute bacterial endocarditis. Daily administration of 200,000 to 300,000 units or, in infections with resistant organisms, much more, in divided doses (every 3 hours) is required. Intramuscular injections are usually the route of choice; however, in certain instances, it may appear desirable to employ continuous drip. Therapy should be continued for a minimum of 3 weeks and must be continued until the blood cultures are consistently negative. Penicillin alone is as effective as penicillin and heparin combined.

Final determination of cure depends upon long-term observation, but if the patient remains asymptomatic and bacteriologically free for a period of 4 weeks after cessation of penicillin therapy, the prognosis for complete cure is excellent. However, it must be remembered that valvular damage and renal lesions are not favorably influenced.

DAWSON, M. H., AND HUNTER, T. H.: *The Treatment of Subacute Bacterial Endocarditis with Penicillin: Results in Twenty Cases, J.A.M.A. 127:129 (Jan. 20) 1945*... FAVOUR, C. B.; JANEWAY, C. A.; GIBSON, J. G., II, AND LEVINE, S. A.: *Progress in the Treatment of Subacute Bacterial Endocarditis, New England J. Med. 234:71 (Jan. 17) 1946.*

BEFORE YOU DECIDE ON THE PENICILLIN OF YOUR CHOICE

Consider this important fact: For many years, Schenley has been among the world's largest users of research on mycology and fermentation processes... from which penicillin and other antibiotics are derived. The wide scope of our activities in these fields is your assurance that when you choose Penicillin Schenley you choose a product thoroughly tested for potency and quality.

PENICILLIN SCHENLEY

a product of

SCHENLEY LABORATORIES, INC. Executive Offices: 350 Fifth Avenue, N. Y. C.

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Speciol System of Reduction— Individuolized to Potient's Needs

THE RALPH SANITARIUM

529 Highland Ave. **Kansas City, Mo.**

Telephone—Victor 4850

Registered by the Council on Medicol Educotion and Hospitols of the A. M. A.

A HOT PACK APPARATUS
that does its work in two minutes!

No fuss or bother. Lift lid. Drop packs into perforated metal basket.

Snap on switch. The basket rotates in an atmosphere saturated with steam.

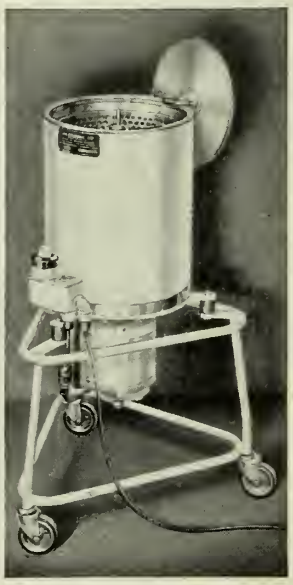
Packs become very hot in this insulated tank, but **never become wet** due to the centrifugal action of the basket. Water in lower half of tank boils by means of an electric heater to produce the required steam.

For a quick, neat method of preparing hot packs requiring less personnel to operate, arrange for a demonstration.

Write Otis V. Bennett—no obligation.

OTIS V. BENNETT

630 Pearl Ave. **Kirkwood 22, Missouri**



The Emerson **Hot Pack** Apparatus

J. H. Emerson Company



to combat

the depression of

chronic organic disease Many patients with chronic organic disease—arthritis or asthma, for example—sink into a persistent depression characterized by discouragement, or even despair. Unless effectively combated, this depression may handicap management of the basic disorder and intensify its symptoms.

By restoring optimism and interest in useful living, Benzedrine Sulfate frequently helps to overcome prolonged depression accompanying chronic illness. Obviously, in such cases, careful observation of the patient is desirable; and the physician will distinguish between the casual case of low spirits and a true mental depression.

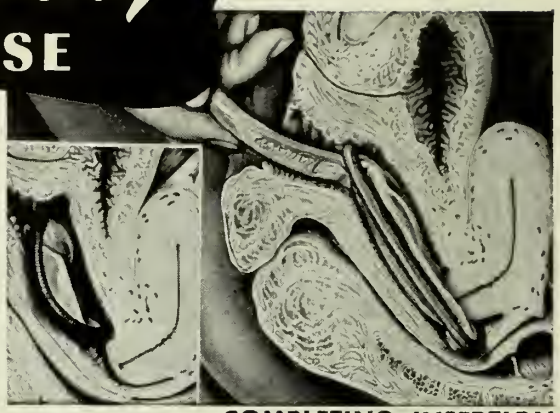
benzedrine sulfate (*racemic amphetamine sulfate, S.K.F.*) Tablets and Elixir

Smith, Kline & French Laboratories, *Philadelphia, Pa.*

Simplicity IN USE

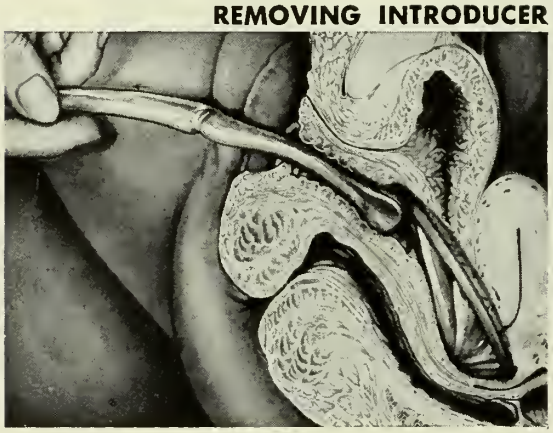


BEGINNING INSERTION

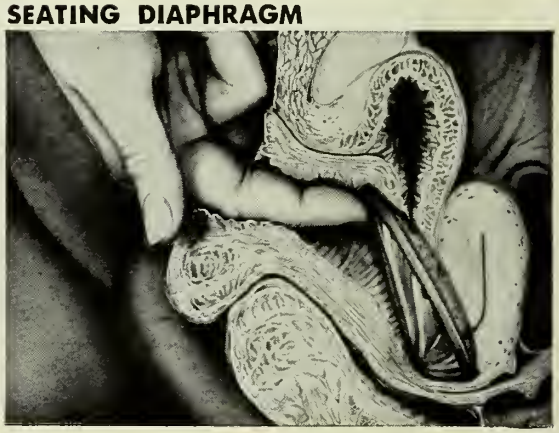


COMPLETING INSERTION

REMOVING INTRODUCER



SEATING DIAPHRAGM



These illustrations, showing the simplicity of use of "RAMSES" Gynecological Products, are reproduced from the booklet *Instructions for Patients*. For the physician's convenience, a supply of these booklets is available, upon request, for distribution to patients.

Determination of indications for control of conception, and advice on the proper method of providing protection, are the exclusive province of the physician. "RAMSES"* Gynecological Products are designed for use under the guidance of the physician only.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Ramses FLEXIBLE CUSHIONED DIAPHRAGM

A MARK OF Ramses DEPENDABILITY

gynecological division
JULIUS SCHMID, INC.

Quality First Since 1883
423 West 55 Street • New York 19, N. Y.

An Invitation to Beauty

We cordially invite you to discuss your beauty potential with the Cosmetic Consultant who distributes our products in your community. Beauty, we feel, is an intimate subject—one that is best discussed in the privacy of your home.

Too often, we are inclined to take ourselves for granted. It somehow escapes us that our outward appearance reflects our personality, our individuality, our ideas; that it is wonderfully adaptable to change, to improvement. We have a tendency to regard our physical aspects for all the world as though they were the drapes in the living-room which we intend to change one of these days, when we get around to it, for something more up-to-date and colorful. We put it off and put it off—and why?

Seeing ourselves as others see us helps immeasurably to arrive at that all-important detached viewpoint without which the art of self-improvement is greatly hampered. And it is here that the Cosmetic Consultants who distribute our products can be of real service to you; for, in effect, you see yourself through their eyes, aided by our Selection Questionnaire which, as it is answered, unfolds a word picture of your type and condition of skin and of your coloring, viewed cosmetically.

Since the outward appearance reflects the inner woman, every care should be taken to fulfill its beauty potential.

A card addressed to Luzier's, Inc., Kansas City 3, Missouri, will put you in touch with the Cosmetic Consultant in your community. It will be her pleasure to help you select beauty preparations suited to your individual requirements and preferences, and to suggest how they should be applied to achieve the loveliest cosmetic effect—your beauty potential.

LUZIER'S, INC.,

Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY



A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.



a Master Key

TO INFANT NUTRITION...

to fit individual requirements

DRYCO's high-protein and low-fat content assures optimal protein intake . . . furnishes *all the essential* amino acids . . . and minimizes gastro-intestinal upsets due to fat indigestion. Its intermediate carbohydrate content makes DRYCO adaptable to use with or without added carbohydrates. Special processing facilitates digestion due to the fine, soft curds formed in the stomach. DRYCO is easily soluble in *cold* or *warm* water.



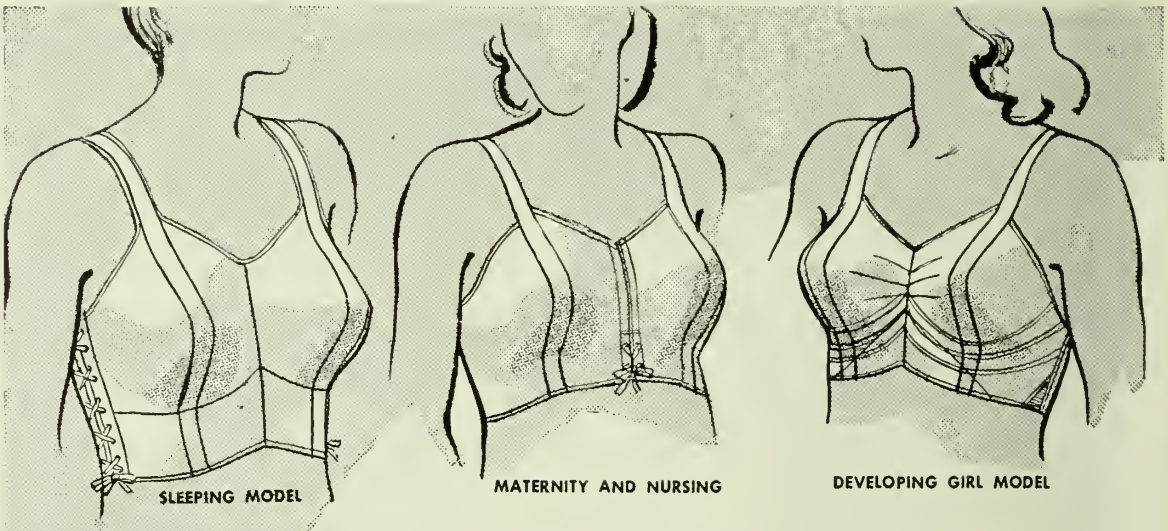
BORDEN'S PRESCRIPTION PRODUCTS DIVISION, NEW YORK

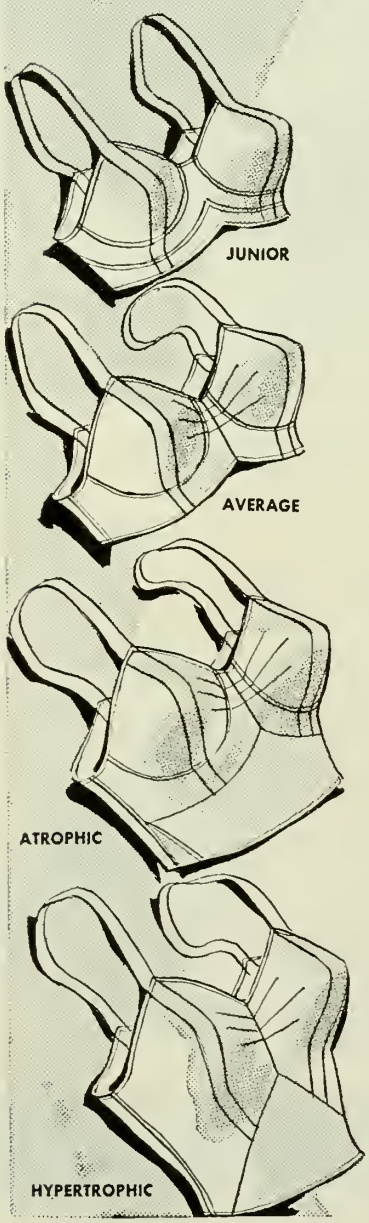
In Canada Write The Borden Company, Limited, Spadina Crescent, Toronto

ACCEPTED AMERICAN MEDICAL ASSOC.

DRYCO *is made from spray-dried, pasteurized, superior quality whole milk and skim milk, provitamin A and vitamin D activated animal sterol. Provides 2500 U.S.P. units vitamin A and 400 U.S.P. units vitamin D per reconstituted quart. In addition,* DRYCO *supplies adequate quantities of vitamins* B_1 *and* B_2*, plus all the important milk minerals. Contains 31½ calories per tablespoon. Available at all drug stores in 1 and 2½ lb. cans.*

DRYCO THE "CUSTOM FORMULA" INFANT FOOD





Lov-é **CORRECTIVE** *Brassieres*

IN MORE THAN 500 SIZE VARIATIONS

CUSTOM-FITTED TO THE INDIVIDUAL IN EXACT ACCORDANCE WITH THE PHYSICIAN'S INSTRUCTIONS, THESE SUPPORTS ARE THE MOST HIGHLY SPECIALIZED AVAILABLE AND A DEFINITE AID TO TREATMENT.

SPECIAL MODELS PROVIDE HYGENIC REMEDIAL SUPPORT FOR SPECIFIC BREAST CONDITIONS. ALSO AVAILABLE: AMPUTATION MODELS, ARTIFICIAL BREASTS, MUSCLE PADS, HOSPITAL BINDERS, MATERNITY GARTER SUPPORTS.

ALL LOV-E' PRODUCTS ARE EXPERTLY FITTED BY COMPANY-TRAINED LOV-E' BRASSIERE TECHNICIANS. LOV-E' MODELS HAVE BEEN DEVELOPED DURING 14 YEARS OF MEETING THE REQUIREMENTS OF THE MEDICAL PROFESSION. MADE BY LOV-E' BRASSIERE COMPANY, HOLLYWOOD, CALIFORNIA.

LOV-E SECTION CORSET DEPARTMENT

FAMOUS-BARR CO., ST. LOUIS

COSEASONAL TREATMENT OF HAY FEVER

Worthwhile relief can be obtained in a large percentage of pollinosis cases if hyposensitization treatment is begun on manifestation of symptoms.

Coseasonal treatment offers the added benefit of helping to establish the patient's tolerance to the specific pollen sensitivities. This aids in preparing the way for perennial treatment which, it is estimated, affords relief to 80 to 90 per cent of sufferers.

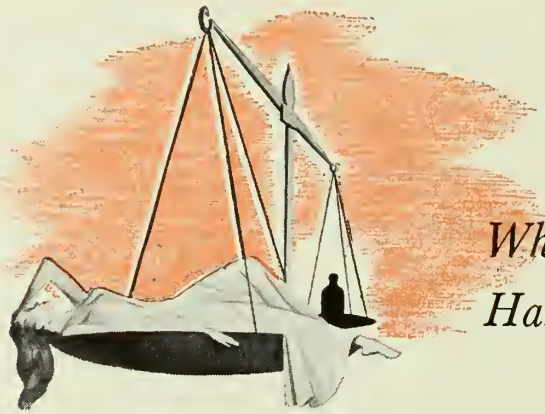
CONVENIENCE AND SIMPLICITY

The *Arlington* POLLEN TREATMENT SET is designed to conveniently facilitate hyposensitization. Each treatment set contains five 3-cc. vials of graduated dilutions (1:10,000, 1:5,000, 1:1,000, 1:500, and 1:100) of pollen antigen, especially prepared to cover the patient's individual pollen sensitivities.



ARLINGTON POLLEN TREATMENT SET $7.50

THE ARLINGTON CHEMICAL COMPANY
YONKERS 1 *Arlington* NEW YORK



When a Life Hangs in the Balance . . .

. . . and progressive wasting increases the gravity of the prognosis, depletion of body proteins can be prevented. Parenamine —parenteral source of the indispensable and other amino acids— provides the elements of protein nutrition . . . sustains the regenerative processes essential to recovery.

Parenamine

Amino Acids Stearns

PARENTERAL

For Protein Deficiency



PARENAMINE is a sterile 15 per cent solution of amino acids containing all known to be essential for humans, derived by acid hydrolysis from casein and fortified with pure *dl*-tryptophane.

INDICATED in conditions of restricted intake, faulty absorption, increased need or excessive loss of proteins such as in pre- and postoperative management, extensive burns, delayed healing, gastro-intestinal disorders, et cetera.

ADMINISTRATION may be intravenous, intrasternal or subcutaneous.

SUPPLIED as 15 per cent sterile solution in 100 cc. rubber-capped bottles.

Reprints and complete clinical data will gladly be sent on request.

Frederick Stearns & Company

Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Parenamine* Reg. U. S. Pat. Off.

FOR CLIMACTERIC CONTROL

Schieffelin BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)

- *Dosage to Meet the Patient's Needs*
- *Proven Clinical Potency*
- *Marked Tolerance*
- *Economy*



Literature and Sample on Request

Possessing these desirable qualities, Schieffelin BENZESTROL meets the requirements of the most critical physician for the estrogenic control of the instabilities of the climacteric.

A non-stilbene compound, this synthetic estrogen tides the patient over the period of adjustment involved in hormonal regression with a high degree of safety and satisfaction.

Schieffelin BENZESTROL Tablets—0.5, 1.0, 2.0 and 5.0 mg. —50's—100's—1000's.
Schieffelin BENZESTROL Solution—5.0 mg. per cc.—10 cc. vials.
Schieffelin BENZESTROL Vaginal Tablets—0.5 mg.—100's.

Schieffelin & Co. Schieffelin 1794 Quality Integrity Service
20 COOPER SQUARE • NEW YORK 3, N. Y.
Pharmaceutical and Research Laboratories

James A. Wallace, M.D. *Medical Director*
S. N. Brinson, M.D. *Medical Director*
Charles W. Miller, Jr., M.D. *Psychiatrist*
Walter R. Wallace *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.



STERILE HIGH TITER

GROUP SERA

For ACCURATE CLASSIFICATION

Improper classification, due to weak reacting testing sera or failure to differentiate A1 from A2 bloods may cause serious trouble—even fatalities.

Our Grouping Sera are certified for HIGH TITER. Exclusively prepared under the personal supervision of Dr. R. B. H. Gradwohl for safe, efficient, *accurate* laboratory technique. We invite your inquiries.

Serum "A" (II, Moss), and Serum "B" (III Moss) represent carefully controlled experimental work to furnish the profession *carefully tested and titrated* grouping sera. Clinically reliable . . . worthy of your confidence. Anti-Rh serum to test for Rh. Absorbed B serum to differentiate between A_1 and A_2. Anti-M and Anti-N sera for blood spots and paternity work.



Write for a sample copy of The Gradwohl Laboratory Digest full of helpful hints on improved laboratory technique.

GRADWOHL LABORATORIES

R. B. H. Gradwohl, M. D., Director

3514 Lucas Av. St. Louis, Mo.

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting July 29, August 26, and every four weeks thereafter.
Four Weeks Course in General Surgery Starting July 15, August 12, September 9.
One Week Surgery Colon and Rectum starting September 16.
One Week Course in Thoracic Surgery starting September 23.

GYNECOLOGY—Two Weeks Intensive Course starting October 21.
One Week Personal Course in Vaginal Approach to Pelvic Surgery starting September 16.

OBSTETRICS—Two Weeks Intensive Course starting October 7.

MEDICINE—Two Weeks Intensive Course starting September 23.

ELECTROCARDIOGRAPHY & HEART DISEASE—Two Weeks Intensive Course starting August 5.

GASTROSCOPY & GASTROENTEROLOGY—Two Weeks Personal Course starting October 7.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Course starting September 23.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road *Medical Director* **Phone Winnetka 211**



Synchronizing pituitary and ovary

When menopausal symptoms betoken an imbalance between the pituitary gland and ovary. PROGYNON-B (alpha-estradiol benzoate) injected intramuscularly will restore endocrine equilibrium safely, smoothly and more rapidly than any other estrogen. Therapeutic effects last from five to eight days depending on the dose administered and the severity of hormone deficiency.

PROGYNON-B

DOSAGE: For average menopausal symptoms 0.33 mg. (2000 R.U.) once or twice weekly. Severe symptoms, as after surgical or x-ray castration, may require 1.0 mg. to 1.66 mg. (6000 to 10,000 R.U.) per injection.

PROGYNON-B available in ampules of 1 cc. containing 0.08 mg. (500 R.U.), 0.16 mg. (1000 R.U.), 0.33 mg. (2000 R.U.), 1.0 mg. (6000 R.U.) and 1.66 mg. (10,000 R.U.).

Trade-Mark PROGYNON-B—Reg. U.S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD, NEW JERSEY
IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death	**$ 8.00**
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	**$16.00**
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	**$24.00**
$75.00 weekly indemnity, accident and sickness	quarterly
$20,000.00 accidental death	**$32.00**
$100.00 weekly indemnity, accident and sickness	quarterly

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,800,000.00	$13,000,000.00

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

MISCELLANEOUS ANNOUNCEMENTS

FOR SALE: Drug Store. Good business. No better farming country. Eighty-one years of age and in failing health. Address Box No. 149, Missouri State Medical Association, 623 Missouri Theatre Bldg., St. Louis 3, Mo.

EMPLOYMENT: Experienced medical secretary desires position with private physician or clinic direction. State salary. Reply: Miss Luella Dryden, 1819 4th Ave., Maywood, Ill.

PHYSICIAN AND SURGEON WANTED: Good location for a physician and surgeon in Harrisonville, Mo. New 30 bed medical hospital established. Aim to meet the requirements of the American College of Surgeons. Address Mr. Ray L. Shubert, President, Memorial Hospital, Harrisonville, Mo.

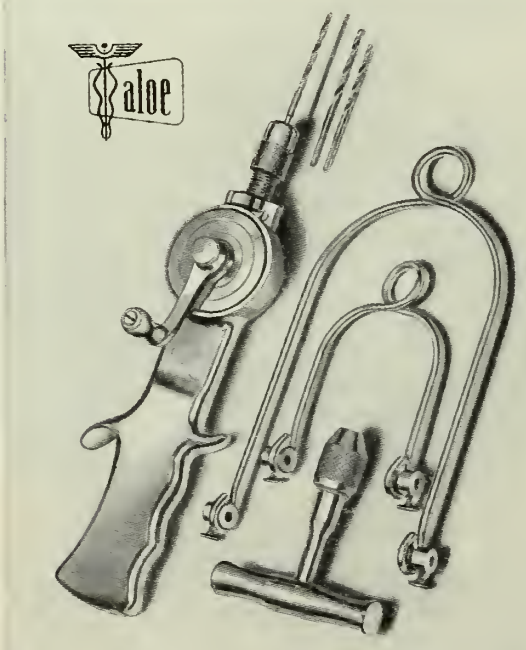
Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only

BUY VICTORY BONDS



GOVERNMENT SURPLUS

. . . approximately 1/3 list, quality fully certified

We have obtained from War Assets Corporation a large quantity of the excellently made instruments illustrated which we can offer at the following very favorable prices.

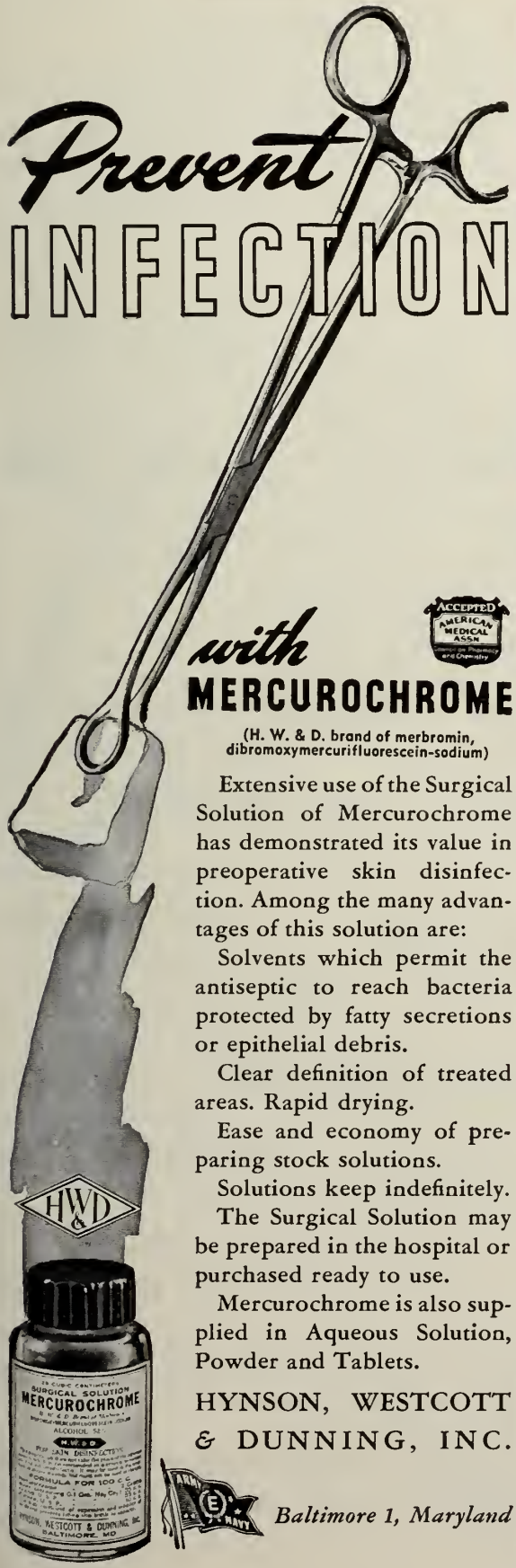
3B122G — Kirschner Hand Drill (A), chrome plated body with stainless steel chuck, complete with 3 twist drills, sizes 1/16-, 3/32-, and 1/8-inch, standard price $29.50, special, only.....**$10.00**

3B123G — Bohler-Steinman Pin Set, consisting of chrome plated Adjustable Chuck Handle (B), one each stainless steel Bahler-Steinman Pin Holders (B and C), medium adult and child sizes, standard price $14.50, special, only.....**$5.85**

3B124G — Special Bone Set, consisting of one each of the above listed instruments, standard price $44.00, special, only.....**$12.50**

A. S. ALOE COMPANY — 1831 Olive St. — St. Louis 3, Mo.

Prevent INFECTION



with MERCUROCHROME

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

Extensive use of the Surgical Solution of Mercurochrome has demonstrated its value in preoperative skin disinfection. Among the many advantages of this solution are:

Solvents which permit the antiseptic to reach bacteria protected by fatty secretions or epithelial debris.

Clear definition of treated areas. Rapid drying.

Ease and economy of preparing stock solutions.

Solutions keep indefinitely.

The Surgical Solution may be prepared in the hospital or purchased ready to use.

Mercurochrome is also supplied in Aqueous Solution, Powder and Tablets.

HYNSON, WESTCOTT & DUNNING, INC.

ARMY E NAVY

Baltimore 1, Maryland

Protecting your Treatment



UNCERTAIN SUCCESS in the treatment of pernicious anemia is due to many unpredictable factors.

One element of certainty is added to your treatment when the Solution of Liver prescribed never varies from rigid standards.

Purified Solution of Liver, Smith-Dorsey, is unfailingly uniform in purity and potency. It has earned and maintained the confidence of thousands of physicians.

Purified Solution of Liver, Smith-Dorsey, will help to protect your treatment—to assure you of good results where the medication is the controlling factor.

PURIFIED SOLUTION OF *Liver*

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

SMITH-DORSEY

Supplied in the following dosage forms: 1 cc. ampoules and 10 cc. and 30 cc. ampoule vials, each containing 10 U.S.P. Injectable Units per cc.

THE SMITH-DORSEY COMPANY

LINCOLN • NEBRASKA

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our **ALCOHOLIC** treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The **DRUG** treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

IMMEDIATE DELIVERY

McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps —Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service

Phone for Demonstration
EDMUND F. HANLEY—Distributor
1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.

ZEMMER

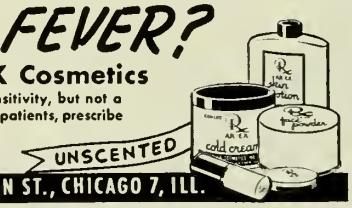
Prescribe or Dispense
Zemmer Pharmaceuticals
A complete line of laboratory controlled ethical pharmaceuticals. Mo 7-46
Chemists to the Medical Profession for 44 years.
The Zemmer Company Oakland Station Pittsburgh 13, Pa.

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois



COSMETIC *HAY FEVER?*
Prescribe UNSCENTED AR-EX Cosmetics
Recent clinical tests showed many cases of cosmetic sensitivity, but not a single one to UNSCENTED AR-EX Cosmetics. For allergic patients, prescribe UNSCENTED AR-EX Cosmetics—free from all known irritants and allergens. SEND FOR FREE FORMULARY.



AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

FREE FORMULARY
DR._____
ADDRESS_____
CITY_____
STATE_____

THE MARY E. POGUE SCHOOL
For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

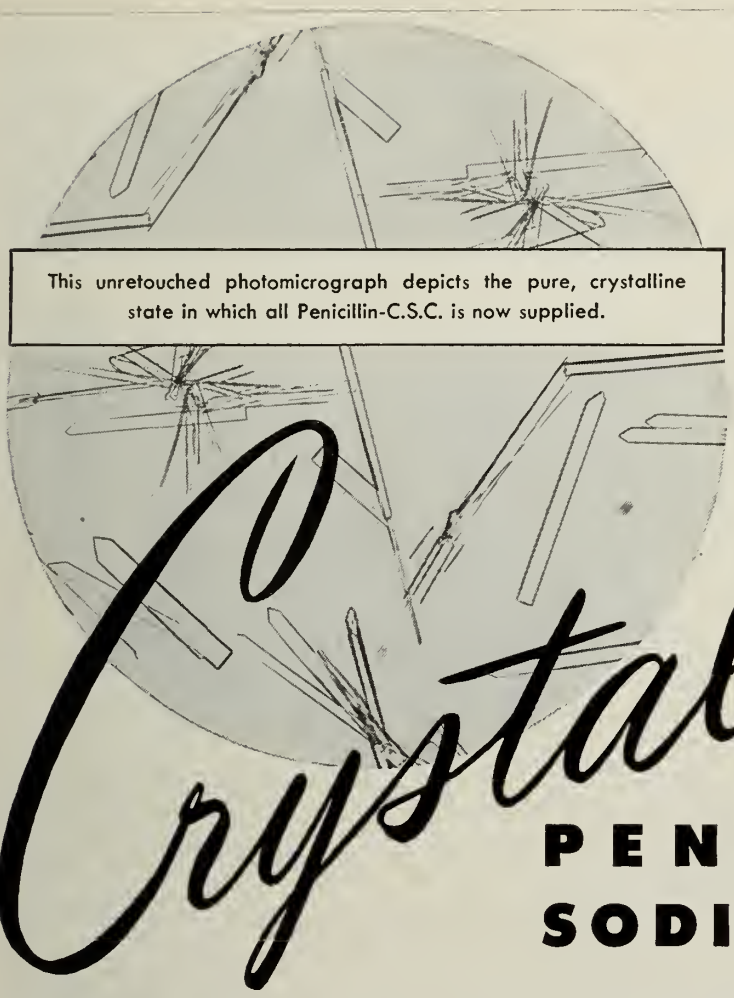
Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319



This unretouched photomicrograph depicts the pure, crystalline state in which all Penicillin-C.S.C. is now supplied.

SYMBOL OF PURITY

Crystalline PENICILLIN SODIUM-C.S.C.

AS a result of special processes of purification and crystallization, all Penicillin-C.S.C. is now supplied in the form of the highly purified, heat-stable Crystalline Sodium Salt of Penicillin-C.S.C.

Well Tolerated Subcutaneously

In the crystalline state Penicillin Sodium-C.S.C. is so pure that it can be administered subcutaneously even in large doses with virtually no pain or danger of untoward reactions due to impurities.

No Refrigeration Required

Crystalline Penicillin Sodium-C.S.C. is so heat-stable that it can be kept at room temperatures, virtually indefinitely without losing its potency.* It can now be carried in the physician's bag or stored on the pharmacy shelf. No longer need the physician wait until the patient can be hospitalized or until refrigerated penicillin can be obtained from the nearest depot.

*CAUTION: Once in solution, however, penicillin still requires refrigeration.

Optimal Therapeutic Activity

Because of its high potency per milligram, Crystalline Penicillin Sodium-C.S.C. exerts optimal therapeutic activity. A recent report shows the advantage of highly potent preparations.[1]

Potency Clearly Stated on Label

The high state of purification achieved in Crystalline Penicillin Sodium-C.S.C. is indicated by *its high potency per milligram*. The number of units per milligram is stated on each vial, thus enabling the physician to know the degree of purification of the penicillin he is using.

[1] "The potency of the penicillin undoubtedly affected the results. The first 15 patients, all treated with the same batch of penicillin, were cured. The next 7 patients were treated with the same dosage of a different batch of penicillin. Five of these 7 were not cured. Assays of penicillin used for these 7 patients showed it to be of reduced potency." Trumper, M., and Thompson, G. J.: Prolonging the Effects of Penicillin by Chilling, J.A.M.A. *130*: 628 (March 9) 1946.



Crystalline Penicillin Sodium-C.S.C. is available in serum-type vials containing 100,000, 200,000, or 500,000 units.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

Penicillin-C.S.C. is accepted by the Council on Pharmacy and Chemistry of the American Medicol Associotion

PHARMACEUTICAL DIVISION

COMMERCIAL SOLVENTS Corporation

17 East 42nd Street

New York 17, N. Y.

CSC

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

HANGER

INVENTORS and MANUFACTURERS
of



ENGLISH
WILLOW
and
DURAL
LIGHT METAL
LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.

1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

DEPENDABILITY...the most important quality in a contraceptive

the extra assurance
with every tube of
Koromex Jelly

TIME TESTED
CLINICAL
RECORD



with confidence

prescribe...

ACTIVE INGREDIENTS: Boric acid 2.0%, oxyquinolin benzoate 0.02% and phenylmercuric acetate 0.02% in a base of glycerin, gum tragacanth, gum acacia, perfume and de-ionized water.

write for literature

HOLLAND-RANTOS CO., Inc.
551 FIFTH AVENUE • NEW YORK 17, N. Y.

WALKING COMFORT ASSURED IN
LIMBS by ISLE
The W. E. ISLE Company
ENTIRE SECOND FLOOR
1121 GRAND AVE.
KANSAS CITY, MO.
VICTOR 2350

Mullen Ambulance Company
PRIVATE AMBULANCE SERVICE
Local and Distant Trips
Day or Night
5165 Delmar, St. Louis Forest 1913

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

FAITH HOSPITAL
A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR
2800 N. Taylor St. Louis, Mo.
GOodfellow 6262



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.
Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.
Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.



Truly, this is America

the village church...the white picket fence...the broad highways which lead to great cities . . . above all, the homes which breed good citizens.

AMERICA'S strength is bred in her homes. In thousands of towns and cities, where modest bungalow stands proudly alongside a local showplace, where the well-kept lawn of one merges with its neighbor...here, the roots of good citizenship are deeply planted.

Here, too, strong bodies and good minds are built.

Because it is so American to want the finest, they will get it. In medicine, for instance, American hospitals, American practitioners are the envy of the world. In quiet towns or teeming cities, the skilled hands of healing go about their work of keeping America well.

To the science of Medicine the physician brings his own individual art of healing, for just as no two people are exactly alike, so no two cases of illness are identical.

Thus, the physician must be free and unhampered, so that he may combine the *science* of Medicine, which is for humanity, with the *art* of healing, which is for the individual patient.

At Ciba, in a quiet community of broad streets and pleasant lawns, we produce many of the fine pharmaceuticals used by the medical profession. In modern laboratories, Ciba medical scientists pursue their search for yet newer aids to physicians in their treatment of disease. This, too, is the American way.

CIBA PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

In Canada: Ciba Company Ltd., Montreal

Boston Medical Library
8 Fenway

1+1=1

To state it another way:

ONE level tablespoonful of Pablum (or Pabena) when mixed with . . .

ONE tablespoonful of milk, formula or water (hot or cold) makes . . .

ONE rounded tablespoonful of cereal feeding of average consistency.

To make thicker feeding (as in pylorospasm, pyloric stenosis, etc.), increase the amount of Pablum or Pabena. To make thinner feeding, as in 3-months infants, increase amount of milk, formula or water.

NO COOKING . . . MIX UP ONLY AMOUNT TO BE FED . . . NO LEFTOVER CEREAL TO GO BACK INTO REFRIGERATOR . . . PABLUM IS ECONOMICAL . . . NO WASTE . . . QUICK AND EASY TO PREPARE . . . SINCE 1932.

Mead Johnson & Company, Evansville, Ind., U.S.A.

PABLUM (SINCE 1932) — PABENA (SINCE 1942)

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 8

AUGUST, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Palliative Roentgen Therapy of Bone Metastases From Breast Carcinoma

Resistance to Antibiotic Agents

Treatment of Minor Burns Acquired in the Laboratory and at Home

Use of Large Daily Injections of Penicillin

Emulsion in Dermatology

Medicine in Missouri

Address of the President

BOSTON
AUG 6 1946
MEDICAL LIBRARY

EDITORIALS

American Medical Association Annual Session

Medical Service Plans

(Contents Index Page 521)


YOUR HELP
1/2 Doz. 1 cc. Size No. 182
PARKE-DAVIS
THEELIN
IN OIL
EACH 1 CC. CONTAINS:
1 mg.
10,000 INTER. UNITS
A solution of the crystalline estrogenic substance, ketohydroxy estratriene in peanut oil.
PARKE, DAVIS & CO.
DETROIT, MICH., U. S. A.
PARKE, DAVIS & COMPANY
DETROIT 32 • MICHIGAN

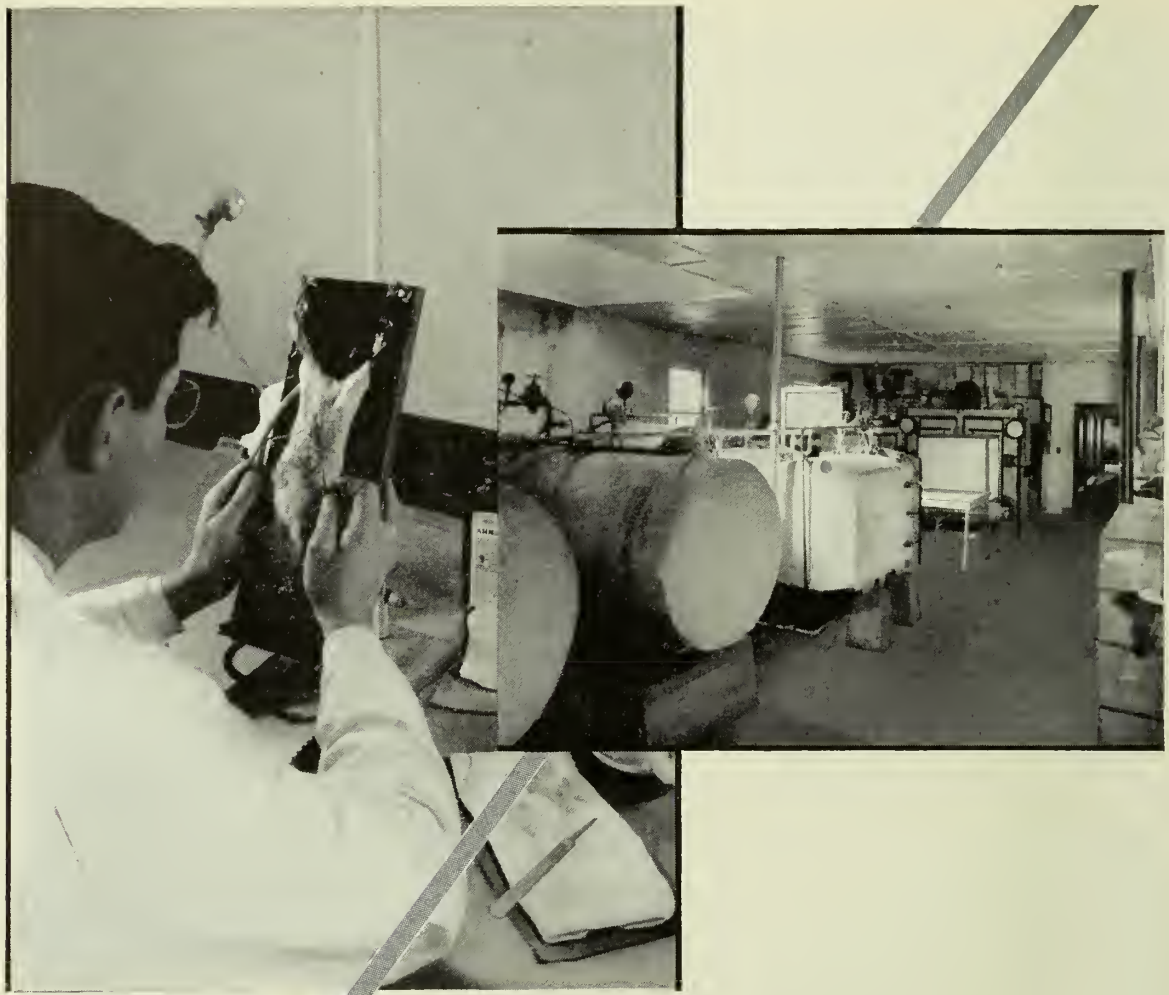


In the distressing disturbances of the menopause, both natural and surgical, administration of the pure, crystalline estrogen **THEELIN** effectively "tides the patient over" this transitional period until endocrine readjustment occurs. It is also indicated in disorders due to estrogenic deficiency, such as vaginitis, kraurosis and pruritus vulvae.

Theelol Kapseals are available for treatment of the milder menopausal symptoms and for maintenance between injections. Theelin Suppositories, Vaginal, are particularly well adapted for the treatment of gonorrheal vaginitis.

THEELIN

Theelin in Oil is available in ampoules of 0.1, 0.2, 0.5 and 1.0 mg., in boxes of 6 and 50. Theelin, Aqueous Suspension, in 2 mg. ampoules, in boxes of 6 and 25. Theelol Kapseals, 0.24 mg., in bottles of 20, 100 and 250. Theelin Suppositories, Vaginal, 0.2 mg., in boxes of 6 and 50.



THE CORE OF COMPETENCE

Knowledge and skill beyond mere technical competence, experience and judgment, and a sense of *individual responsibility* for unfailing performance, shared by the entire personnel, explain why for more than a quarter of a century U. S. Standard Products have merited the sustained confidence of the medical profession in day-by-day hours at the bedside, and in moments of crisis in the operating theatre.

Building soundly through the years—avoiding the untried and merely spectacular, U. S. Standard Products have developed into a comprehensive list of essentials in general practice and the specialties.

U. S. STANDARD PRODUCTS

- **BIOLOGICALS**
- **PHARMACEUTICALS**
- **ALLERGENIC EXTRACTS**
- **HORMONES**

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.

CONTENTS

Palliative Roentgen Therapy of Bone Metastases From Breast Carcinoma. L. R. Sante, M.D., St. Louis 533

Resistance to Antibiotic Agents. Robert H. Rutherford, M.D., Peoria, Ill., Gilbert H. Marquardt, M.D., Chicago, Ill., and Arie C. Van Ravenswaay, M.D., Boonville, Mo. 535

Treatment of Minor Burns Acquired in the Laboratory and at Home. Saul Malkiel, M.D., and William C. Boyd, Ph.D., Boston, Mass. 538

Use of Large Daily Injections of Penicillin Emulsion in Dermatology. Charles C. Dennie, M.D., and David B. Morgan, M.D., Kansas City, Mo. 539

Case Report of Barnes Hospital. Robert J. Glaser, M.D., St. Louis 541

Special Articles—
Medicine in Missouri. Governor Phil M. Donnelly, Jefferson City, Mo. 554

Address of the President. A. S. Bristow, M.D., Princeton, Mo. 560

Abstracts and Digests—
Tuberculosis Abstracts 563

Editorials—
American Medical Association Annual Session.. 567
Medical Service Plans 567

News Notes 567

Miscellany—
Additional Physicians Returned From Military Service 568
Cancer Clinics at the Ellis Fischel State Cancer Hospital 568

Organizational Activities 569

Society Proceedings 570

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Harrison H. Shoulder, Nashville.
President-Elect, Olin West, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgraduate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D. Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1948); R. R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren.*

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade,* Howard, *Maries,* Miller, Moniteau, Montgomery, Morgan, *Osage.*

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair,* Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade,* Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald,* Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark,* Phelps, Pulaski, *Ripley,* Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger,* Butler, Cape Girardeau, Dunklin, *Iron,* Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne.*

*Counties in italics are not organized.

accepted

for New and Nonofficial Remedies by the Council on Pharmacy and Chemistry of the American Medical Association.



PERTUSSIS ENDOTOXOID-VACCINE

ACCEPTED
AMERICAN MEDICAL ASSN.
Council on Pharmacy and Chemistry

Bacterial Vaccine and Bacterial Antigen Combined.
Made from H. pertussis phase I organisms.

Ayerst Pertussis Endotoxoid-Vaccine is made by suspending H. pertussis phase I organisms in a formalized endotoxin solution prepared from H. pertussis phase I. The resulting Pertussis Endotoxoid-Vaccine is both antibacterial and antiendotoxic, thus providing immunity to the H. pertussis organisms and to the endotoxin produced by these organisms.

Ayerst Pertussis Endotoxoid-Vaccine is available in vials of 6 cc. and 24 cc.

Ayerst

AYERST, McKENNA & HARRISON Limited, 22 East 40th Street, New York 16, N. Y.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dent	9	Martin M. Hart	Salem	G. E. Joseph	Salem
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethany
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	Morris Leech	Fayette	Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	Thomas A. Donnell	DeSoto
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	B. E. Ellis	Gideon	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Maryville	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford	9	A. A. Drake	Rolla	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Pulaski	9	Cyrus Mallette	Crocker	R. W. Reed	Richland
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield

INTERESTED IN CIGARETTE ADVERTISING?

Claims, words, clever advertising slogans do sell plenty of products. But obviously they do not change the product itself.

That PHILIP MORRIS are less irritating to the nose and throat is not merely a claim. It is the result of a manufacturing difference *proved** advantageous over and over again.

But why not make your *own* tests? Why not *try* PHILIP MORRIS on your patients who smoke, and *confirm* the effects for yourself.

* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, N. Y.

TO PHYSICIANS WHO SMOKE A PIPE:
We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.





milk TABOO?

Milk intolerance in adults may frequently be a cause of gastro-intestinal upsets, migraine, urticaria, etc., which may place milk on the "taboo" list.

For such patients the easy digestibility and high nutritive value* of MULL-SOY make it an ideal milk substitute... by providing a rich source of all essential amino acids in the form of soy proteins, together with the other nutritional values of fat, carbohydrate and minerals in quantities closely resembling those of cow's milk when mixed in standard dilution (1:1).

*Cahill, W. M., Schroeder, L. J. and Smith, A. H Digestibility and biological value of soybean protein in whole soybeans, soybean flour, and soybean milk, J. Nutrition, 28:209, Sept. 1944

BORDEN'S PRESCRIPTION PRODUCTS DIVISION, NEW YORK
IN CANADA WRITE THE BORDEN COMPANY, LIMITED, SPADINA CRESCENT, TORONTO



Literature containing "Tasty recipes for Mull-Soy in milk free diets" will be gladly sent on request.

WHEN MILK BECOMES FORBIDDEN FOOD MULL-SOY

MULL-SOY is a liquid emulsified food prepared from water, soy flour, soy oil, dextrose, sucrose, calcium phosphate, calcium carbonate, salt and soy lecithin. Homogenized and sterilized. Available 15½ fl. oz. cans at all drug stores.

Star of hope in petit mal . . . .



For thousands of children laboring under the social and educational handicaps imposed by petit mal, Tridione, a product of Abbott research, offers new hope. In one series of cases, for example, Tridione was administered to a group of 50 patients suffering from petit mal, myoclonic or akinetic seizures *which had not responded to other medication.* In a period of days to weeks, the seizures ceased in 28 percent of the cases, were reduced to less than one-fourth of the usual number in 52 percent, and were little affected in 20 percent. In several instances, the seizures once stopped *did not return* when medication was discontinued. Tridione has also been shown to have a beneficial effect in the control of a certain proportion of psychomotor cases. Tridione is supplied in 0.3-Gm. capsules, bottles of 100. Literature on request. ABBOTT LABORATORIES, North Chicago, Ill.

Tridione

REG. U. S. PAT. OFF.

(3,5,5-TRIMETHYLOXAZOLIDINE-2,4-DIONE, ABBOTT)

Richards, R. K., and Perlstein, M. A. (1945), Tridione, A New Experimental Drug for the Treatment of Convulsive and Related Disorders, Proc. Chicago Neurological Soc., Jan. 9; and (1946), Arch. Neurol. and Psychiatry, 55:164, February.

Lennox, W. G. (1945), Petit Mal Epilepsies: Their Treatment with Tridione, J. Amer. Med. Assn., 129:1069, December 15.

DeJong, R. N. (1946), Effect of Tridione in the Control of Psychomotor Attacks, J. Amer. Med. Assn., 130:565, March 2.

PENICILLIN *by mouth*

An effective way of administering Penicillin by mouth is in combination with the antacid Creamalin.

Each 100,000 units of Penicillin are dissolved in 20 cc. of water and mixed with 30 cc. of Creamalin gel. The mixture, which is stable for at least 24 hours without and for 30 days with refrigeration, is administered on an empty stomach (not less than 30 minutes before and not less than 1½ to 2 hours after eating a light meal) in doses of 25 cc. (50,000 units of Penicillin) every 2 or 3 hours.

Therapeutically effective blood levels of Penicillin are rapidly obtained and readily maintained in this manner.

WRITE FOR DETAILED LITERATURE

discussing indications, contraindications and precautions for oral Penicillin therapy.



ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

CREAMALIN
Trademark Reg. U. S. Pat. Off.
brand of ALUMINUM HYDROXIDE GEL

SUPPLIED IN BOTTLES OF 8 OZ., 12 OZ. AND 1 PT.

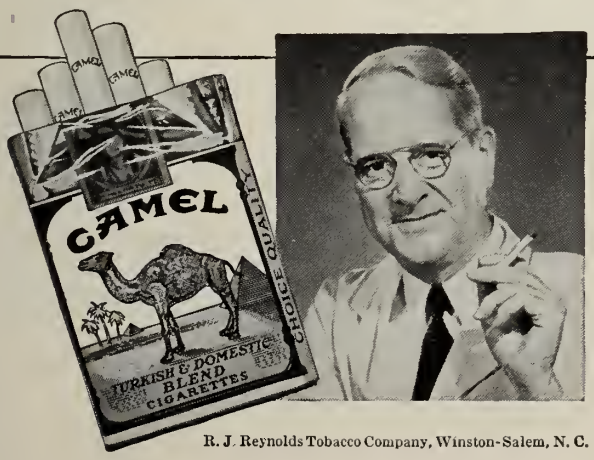
WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician • New York 13, N. Y. • Windsor, Ont.



Everybody knows him...

Early or late, he's a familiar figure to every policeman on the street—he's the Doctor —he's on an emergency call!

● A Doctor's life isn't his own to live as he chooses. There are interrupted holidays and vacations and nights of broken sleep. Emergencies require his presence for long, exacting hours . . . with somewhere a pause and perhaps the pleasure of a cigarette. Then back to his job of serving the lives of others.

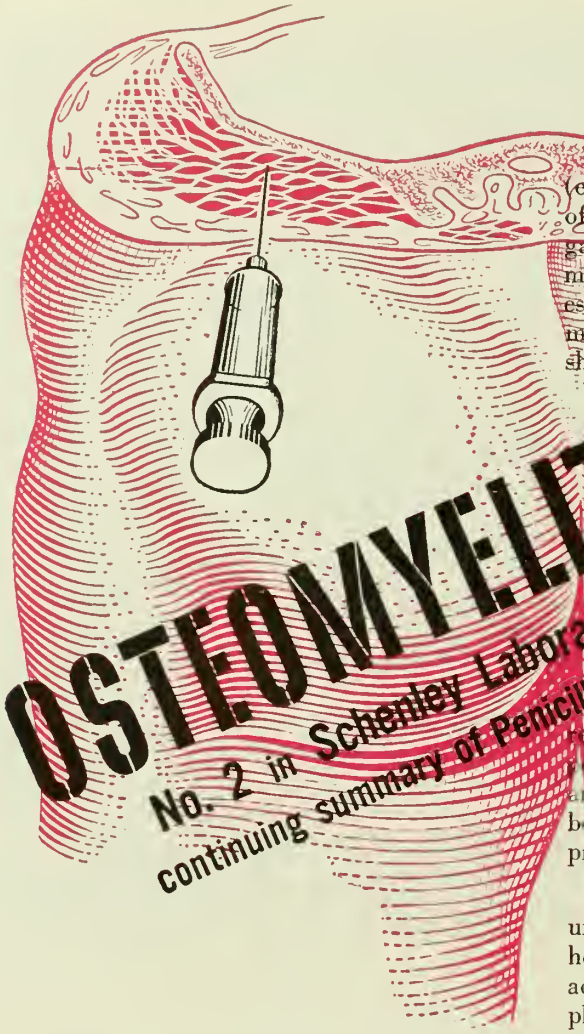


According to a recent independent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.



OSTEOMYELITIS

No. 2 in Schenley Laboratories' continuing summary of Penicillin therapy

In the acute form, early administration (even before establishment of the diagnosis) of adequate amounts of penicillin will mitigate the severity of the infection. Hence, the mortality rate is reduced, destructive processes with subsequent deformity are minimized, and the duration of the disease is shortened. Control and eradication of the infection may be obtained without major surgical intervention; however, surgical removal of necrotic bone will be required in some instances and abscesses should be either aspirated or incised and drained.

In the chronic form, major surgery is usually required to effect a cure; however, penicillin, administered both preoperatively and postoperatively, is of inestimable benefit in localizing the infection and preventing acute exacerbations.

The administration of 20,000 to 40,000 units by the intramuscular route every 2 to 4 hours is advised. When necessary, parenteral administration of penicillin should be supplemented with local instillations of 25,000 to 50,000 units in a sterile solution two to three times daily. Due attention must be paid to surgical, supportive, and other measures when these are indicated.

To determine complete control and eradication of the infection, a prolonged follow-up period with frequent physical examinations and serial roentgenograms is advised.

KEEFER, C. S. *Penicillin—Its Present Status in the Treatment of Infections: The Nathan Hatfield Lecture XXIX, Am. J. Med. Sc. 210:147 (Aug.) 1945.*

ALTEMEIER, W. A.: *Treatment of Acute Hematogenous Osteomyelitis with Penicillin, Ohio State M. J. 42:489 (May) 1946.*

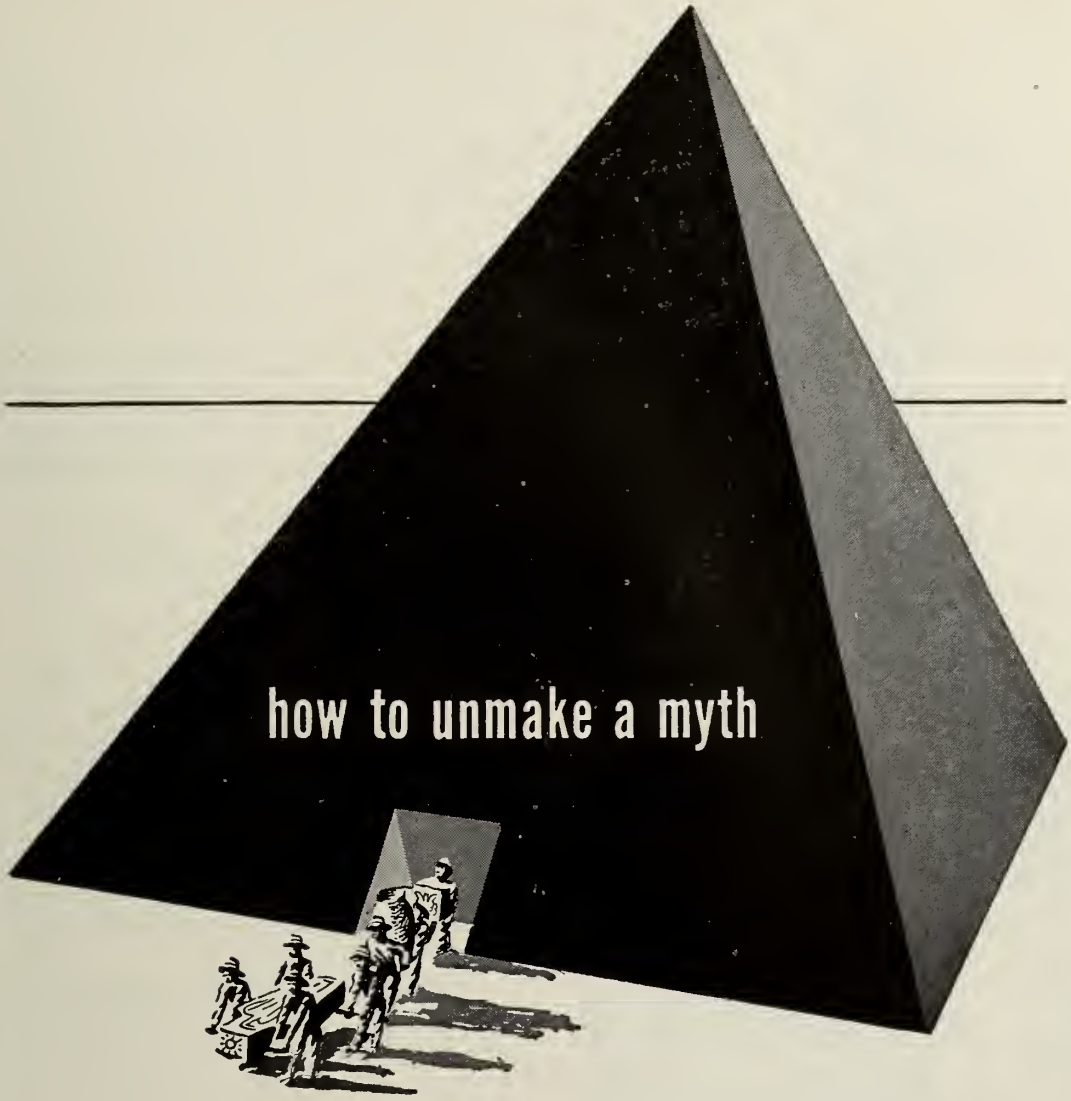
BEFORE YOU DECIDE ON THE PENICILLIN OF YOUR CHOICE

Consider this important fact: For many years, Schenley has been among the world's largest users of research on mycology and fermentation processes . . . from which penicillin and certain other antibiotics are derived. The wide scope of our activities in these fields is your assurance that when you choose Penicillin Schenley you choose a product thoroughly tested for potency and quality.

PENICILLIN SCHENLEY

a product of

SCHENLEY LABORATORIES, INC. Executive Offices: 350 Fifth Avenue, N. Y. C.



The so-called "average" height has proved a myth in the light of greater growth rate in better nourished children on supplemental vitamin D. And since rickets has been reported in almost 50% of a group of children between the ages of 2 and 14,[1] administration of vitamin D is indicated long after infancy — throughout childhood and throughout growth.

Upjohn vitamin D preparations are high in potency, unusually palatable, and well tolerated, every drop from natural sources.

1. Am. J. Dis. Child. 66:1 (July) 1943

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS



Action... where action counts

'MERTHIOLATE' (Sodium Ethyl Mercuri Thiosalicylate, Lilly) exerts its germicidal action without interfering with normal defenses of the body. 'Merthiolate' produces dependable asepsis and is noted for its general clinical applicability.

It has measured up to the most critical requirements of the medical profession, and is an antiseptic of choice among many discerning physicians and surgeons.

Among the preparations of 'Merthiolate' now used extensively is the tincture. Tincture 'Merthiolate' is an alcohol-acetone-aqueous solution of 'Merthiolate,' 1:1,000.

Lilly

ELI LILLY AND COMPANY

Indianapolis 6, Indiana, U.S.A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 — AUGUST, 1946 — NUMBER 8

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

PALLIATIVE ROENTGEN THERAPY OF BONE METASTASES FROM BREAST CARCINOMA

L. R. SANTE, M.D.

ST. LOUIS

With the development of bone metastases from carcinoma of the breast, I feel sure that it is the tendency for most practitioners, considering the case as hopeless, to refer the patient for radiation therapy and thenceforth to wash their hands of the case. Other than a few measures for the relief of pain, little is done for the welfare of the patient. I venture to say that many physicians, not engaged in radiologic practice, are not acquainted with what can be accomplished for some of these patients after bone metastases have developed.

It is my purpose in making this presentation to demonstrate some of these palliative effects. There is nothing new or unusual in what I have to present. The subject is in no sense controversial but represents the well recognized results of radiologists throughout the country. Physicians engaged in other fields of medical practice probably will not be interested in the technical details of roentgen ray dosage but will be more interested in the results which can be accomplished. No attempt will be made to present cases in detail but instead a roentgen survey of the results obtained will be stressed.

In general, it may be said that all treatments given in this series were with 200 K. V. roentgen rays, using 1 mm. cu. and 1 mm. al. filter; all were women of premenopausal age, all except one had had operative removal of the breast for carcinoma and subsequently developed metastases to the bony structures. Microscopic studies of the entire breast specimens were made in all cases with the diagnosis of various types of carcinomatous lesions.

REPORT OF CASES

Case 1.—The first case was an adult female, aged 42, who had radical mastectomy in 1938 for schirrhus carcinoma of the breast and was referred for postoperative roentgen therapy. This was carried out without incident and there was never any evidence of recurrence in the operative field or regional lymph nodes. She did not return for follow-up examination except for a few months. In the early part of the following year she began having pains in the back but continued to do her regular work in her shop even though it necessitated her being on her feet all day. Getting no relief after a period of several months, she was referred by the practitioner to an orthopedic specialist who sent her for roentgen ray examination. Roentgen



Fig. 1. A. Case 1. Numerous (dark) areas of bone destruction in the pelvis and femur, from metastatic carcinoma of the breast. Largest area, 8 cm., longest diameter involved left side of sacrum and adjoining ilium. These few figures are presented as representative of the favorable type of bone reaction which follows palliative roentgen ray therapy. B. Case 1. One year later after palliation roentgen ray therapy. Carcinomatous lesions have all been replaced by dense (light) areas of new bone formation. Where the full thickness of the bone is not completely destroyed the areas fill in with sclerotic new bone in favorable cases after palliative x-ray therapy.

Presented before the Sectional Meeting of the American College of Surgeons, February, 1946, St. Louis, Missouri.

examination at the time (fig. 1A) revealed an area of bone destruction involving the left wing of the sacrum and adjacent ilium, about the size of the palm of the hand. Several other areas of destruction were present throughout the pelvic bones: both anterior-superior spines of both ilii, the horizontal ramus of the right pubic bone, as well as the neck of the right femur. All lesions were extremely painful and the patient could hardly get out of bed for the examination. A course of roentgen therapy was given to all demonstrable metastatic lesions in the pelvis and a number of other places in the body, with prompt relief of pain (within twenty-four hours). Within a few weeks the areas of bone destruction caused by the tumor began to fill in with new bone which appeared as dense sclerosis. Repeated examinations at intervals of a few months, over the next five years showed little change in the character of the lesions (fig. 1B). The patient had no pain or discomfort except from time to time when small lesions appeared in other locations such as various vertebrae, ribs, scapula, (fig. 2A), skull. With the application of roentgen rays to these areas, the pain promptly subsided and the lesions filled in with new bone. If the full thickness of the bone is destroyed the edges of the defect become rounded and smooth but the defect does not fill in with new bone (fig. 2B). At one time the patient had a fall sustaining a fracture through the horizontal ramus of the pubis; this healed under roentgen ray therapy but the new bone formation was never as dense as in the other areas. At one time, two small rounded lesions, about 1 centimeter in diameter, developed in the skull. These were accompanied by definite palpable nodules, which promptly disappeared after local treatment. The patient is still alive and well, carrying on her business normally, showing little change in her bone lesions at the present time. If it were not for the fact that she knows the nature of her affiiction she would be perfectly happy and without care.

This case represents a patient still alive and able to carry on her normal activities seven years after the occurrence of bony metastases. The microscopic diagnosis of both primary and metastatic growths was scirrhus carcinoma.

Case 2.—A 43 year old, white female gave a history of being run into by a bicycle and sustaining a fall in 1941. She did not feel badly until a few months later when she developed a severe backache. For nine months she was treated by a chiropractor with constantly increasing pain and disability. She reported first for medical examination on August 11, 1942, when roentgen ray examination revealed almost complete destruction of the seventh and twelfth thoracic vertebrae from metastatic carcinoma. On seeking for the primary growth it was found as a "lump" in the right breast measuring 4 by 2½ by 2 cm. (She then asserted that it had been present for over a year.) She received a course of roentgen therapy over the vertebrae and over the pelvis since she was within the menopausal age period (more than 43 years of age). Gold radon seeds were planted in the carcinomatous lesion in her breast since at the time it was not thought worth while to subject her to breast surgery in the presence of metastatic lesions to the spine. Both the primary and the metastatic lesions regressed so well, however, that it was deemed advisable to do a simple mastectomy. Surgical removal of the pendulous breast was performed with a minimal amount of trauma; she was up within twenty-four hours after the operation and discharged from the hospital within a few days. The destroyed vertebral bodies filled in with new bone so that after a short time the brace could be removed whenever she went out. The roentgen appearance has shown no material change over the last three years and the patient continues to be up and about, feels well and carries on her regular household duties. The fact that she has lived to see the safe return of her soldier son has greatly stimulated her interest in life. In this case, is a patient able to carry on her duties, free from pain, five years after bone matastases were known to be present. In this instance the carcinomatous growth was of the adenocarcinomatous variety.

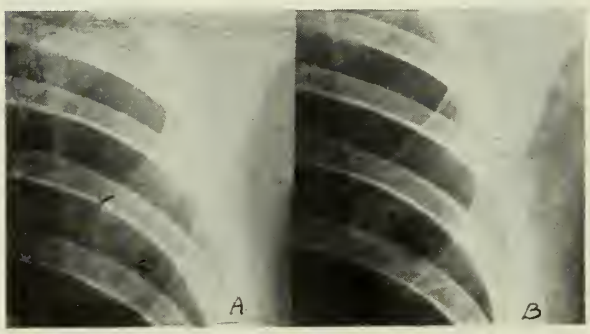


Fig. 2. A. Case 1. Rounded irregular defect in bone at inferior angle of the scapula with complete destruction of entire thickness of bone in some regions from metastatic carcinoma of the breast. B. Case. 1. After palliative roentgen ray therapy a portion of the destroyed area has filled in with new bone but that part in which the full thickness of the bone was destroyed has become rounded and smooth but has not filled in.

Case 3.—A white, 33 year old female nurse developed a carcinoma of the breast following the kick of a patient during a convulsion. Within the year after operation, roentgen examination of the chest in search for any possible metastatic involvement revealed a minimal infiltrative tuberculous lesion, whereupon she was transferred to Koch Hospital (for tuberculosis). Within a few months while there, she developed a large group of supraclavicular nodes, although no local regrowth was seen in the operative field. These glands promptly disappeared after local radium treatment. Since she was an Army nurse and therefore could draw compensation for the support of her dependent mother if she was in an U. S. Army Tuberculosis Sanatorium, she requested transfer to the U. S. Army Hospital in Denver, Colorado. Within a short time after her transfer she developed bony metastases in the pelvis and femurs; metastases in the brain rapidly resulted in total blindness. In addition, numerous carcinomatous metastases developed in the lungs. On her request she was transferred back to St. Louis so that she could have her last few days among her friends. In the process of transfer she sustained a pathologic fracture of the upper third of the femur through a metastatic area. Roentgen treatment was instituted over all metastatic cancer areas with almost miraculous result. She regained her eyesight to the point of again being able to read a book, the metastatic lesions in the lungs disappeared, her pathologic fracture healed and she was able to get up and be about, free from pain. She lived four years and nine months and finally died of a streptococcus sore throat and septicemia. The microscopic diagnosis was scirrhus carcinoma.

Case 4.—A white female, aged 43, first noticed a small depression in the right breast in April 1938. She saw a doctor on May 7 and had operative removal of the breast two days later. Adenocarcinoma was found on microscopic examination. There was no evidence of glandular involvement at the operation or later. There was no evidence of recurrence until one and one half years later (September 1939) when numerous nodules developed in the anterior chest wall within the operative field. These were destroyed readily by radium therapy. This was followed by pain in the right knee; roentgenographic examination revealed only hypertrophic arthritis but examination of the spine showed metastatic destruction of the bodies of the last thoracic and first and fourth lumbar vertebrae. Radiation therapy was given over these areas with immediate relief

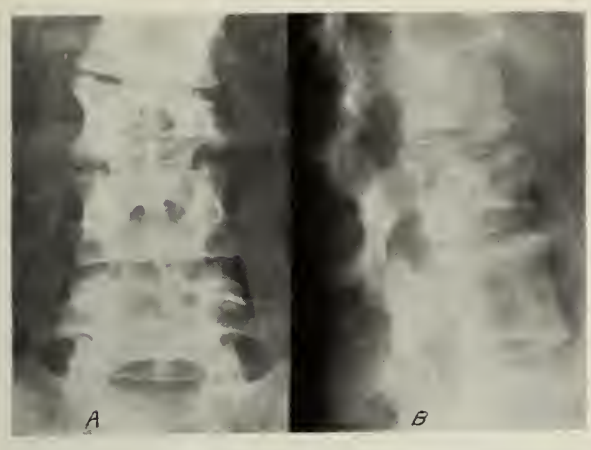


Fig. 3. A. Case 5. Destruction of body of third lumbar vertebra with partial collapse from metastatic carcinoma of breast. Anteroposterior view. B. Case 5. Same case, lateral view.

of pain. The patient is still alive but wears a brace over these areas. The tumor was of the adenocarcinomatous type.

Case 5.—A white female, aged 41, had noticed a lump in the right breast a year or so before, which was biopsied and diagnosed as a "fibroadenoma, probably benign." In December 1940, she noticed pain in the back and knee and roentgen examination disclosed destruction of the body of the third lumbar vertebra (fig. 3A). At that time she still had an indurated mass, 3 centimeters in diameter in the right breast, attached to the skin producing a typical dimpled appearance.

Roentgen therapy was instituted; the breast growth as well as the metastatic lesions in the spine and pelvis were treated. The destroyed vertebral body filled in with new bone and has remained so to date—a period of more than five years since metastases were known to be present (fig. 3B). She has since had areas of destruction in the ninth rib on the right side but this responded to treatment in a similar manner and is all right. She has continued with all of her activities; almost succeeded in joining the WAAC'S which was only avoided by intervention of her doctor. Intensely patriotic, she has devoted all of her energy to U. S. O. work and to individual members of the Army and Navy.

I do not mean to leave the impression that all patients with metastatic bone lesions respond so favorably—in fact, there are many in whom relief of pain is all that can be accomplished. But it is impossible to tell at the outstart in which instances such remarkable palliation may be accomplished. The sensitivity of the tumor cells to radiation is of course the answer, but this cannot always be judged from microscopic appearance as is evident in this series of cases. All of the tumors here described (scirrhus carcinoma, adenocarcinoma, fibroadenoma with malignant changes) are notoriously radio-resistant, and yet in their new location in bony tissue they become very readily influenced. The secret of success lies in persistent careful observation and prompt application of radiation to any new area of involvement. Roentgenographic examination of previously involved areas to see that they still remain ossified is necessary from time to time; any sign of reactivation of the lesion should be followed at once by further radiation.

If eight years—happy comfortable years—can be added to the life of a woman 40 years of age, this represents a "bonus" of 20 per cent of her life—an achievement well worth while to her doctor and of inestimable value to the patient.

634 N. Grand Ave.

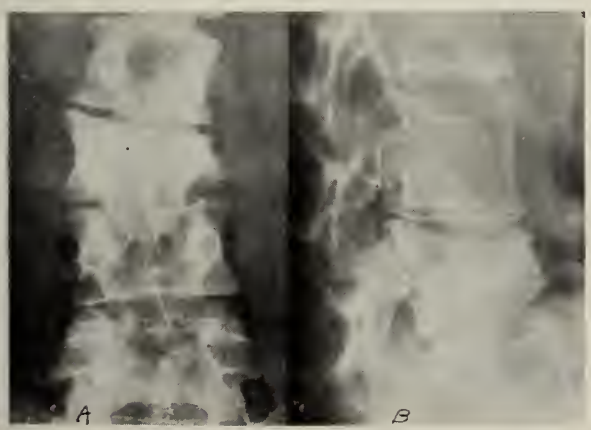


Fig. 4. A. Case 5. Same patient after palliative x-ray therapy showing filling in of body of third lumbar vertebra with new bone. Anteroposterior view. B. Case 5. Same patient, lateral view after roentgen ray therapy.

RESISTANCE TO ANTIBIOTIC AGENTS

ROBERT H. RUTHERFORD, M.D.
PEORIA, ILL.
GILBERT H. MARQUARDT, M.D.
CHICAGO, ILL.
ARIE C. VAN RAVENSWAAY, M.D.
BOONVILLE, MO.

The problem of resistance to antibiotic agents has been increasing rapidly in importance during the last few years. During the recent war this problem received much consideration from a number of military and civilian groups. The purpose of this paper is to record a series of observations regarding antibiotic resistance conducted in Army Air Forces Laboratories and to make available the methods for the determination of antibiotic resistance which were accepted as standard for use in the Army Air Forces. As a result of the abrupt end of the war and the contraction of the medical establishment, the data presented is in some instances limited. It is regretted that an organized program for the study of antibiotic resistance to pathogenic organisms throughout the United States could not have been continued into the postwar period.

The importance of antibiotic resistance as a military problem was first forcibly demonstrated by the appearance and widespread dissemination of strains of N. Gonococci, highly resistant to the sulfonamides. In 1942 it appeared that the problem of gonorrhea in military personnel had been largely solved by the use of sulfathiazole. At that time cures were being obtained in approximately 85 per cent of cases with a single "course" of this sub-

Formerly in the Office of the Air Surgeon, Washington, D. C.

stance. However, within a period of slightly more than two years the percentage of cures decreased until at some posts it did not exceed 20 per cent following one "course" of such therapy. This reversal of therapeutic results during such a brief period attracted only limited interest because of the availability of penicillin as a superior substitute. If penicillin had not been available, it appears that the effectiveness of therapy for gonorrhea would shortly have reverted to that of the pre-sulfonamide era.

Because of this incident, and in view of the in vitro studies of Demarec[1, 2] and others describing the selection of resistant mutants to bacteriophage, the sulfonamides and penicillin, apprehension developed that the widespread use of any antibiotic agent ultimately would result in a termination of its usefulness because of a selection of resistant virulent strains. At that time the principal health problem in Army Air Forces basic training centers and technical schools was that of streptococcic disease. Because of the widespread use of sulfadiazine both therapeutically and prophylactically for infections of this type, the possibility of the selection and dissemination of resistant strains was recognized. During the fall of 1944 two laboratories were established at strategically located Army Air Forces installations for the determination of sulfadiazine resistance of streptococci, using technics developed by St. Commander Armine Wilson of the U. S. Naval Medical Center, Bethesda, Maryland. Several months later a sulfadiazine-resistant strain of group A type 17 streptococcus appeared at Keesler Field and was identified and recognized as such. This organism subsequently became disseminated to a number of Air Corps installations. Details of this outbreak which was traced to an inductee transferred to Keesler Field from a western induction center will appear shortly in publications by DeLamater, Mitchell, Roberg and Bullock. Pneumonia and empyema were frequent complications of infection by this resistant strain and the importance of differentiating it from less virulent and invasive sulfadiazine sensitive strains which were epidemic during the same period was soon recognized. Several deaths occurred before the necessity of early and adequate treatment with penicillin became apparent.

In June 1945 the importance of penicillin resistant strains of staphylococci in military personnel was emphasized by Waisman and Gots.[3] In their initial report it was noted that impetiginous lesions of staphylococcic origin were usually penicillin sensitive (ten of twelve cases). In chronic dermatitis and dermatoses seventeen of twenty-three isolated strains were resistant.

During the first eight months of 1945 three cases of bacterial endocarditis due to penicillin-resistant strains of staphylococci were reported from Air Forces installations. Two of these died, one after an acute illness of forty-eight hours duration. The other case is apparently well at the present time following treatment with benzyl-sulfanilamide (Winthrop).

Because of the foregoing, arrangements were made to train personnel and obtain equipment so that resistance determinations could be performed at all major Air Forces hospitals. This was accomplished during the summer of 1945, and studies were beginning when the war terminated and the confusion attendant to returning the Armed Forces to a peace time bases began. Observations during the limited period for which these laboratories functioned are given in the following paragraphs.

Resistance to Sulfadiazine.—During the period from February 23, 1945, to November 2, 1945, 632 isolates of hemolytic streptococci were studied for in vitro evidence of sulfadiazine resistance in Army Air Force Laboratories. Table 1 is a compilation

Table 1. *Distribution of Sulfonamide Resistant Hemolytic Streptococci (February 23, 1945, to September 1, 1945)*

Station	Type	No. strains tested	No. strains growing in various concentrations (mg. %) sulfadiazine				
			0	1	5	25	125
Barksdale, Louisiana	17	1	..	..	..	..	1
	30	1	1	..	..	..	..
Buckley Field, Colorado	3	1	..	..	1	..	..
	12	1	1	..	..	..	..
	17	72	7	2	..	37	26
	24	2	2	..	..	..	..
	38	2	2	..	..	..	..
	Untyped	2	1	..	..	..	1
Ft. Geo. Wright, Washington	19	1	1	..	..	..	..
Hobbs, N. M.	19	1	..	..	..	..	1
Kearns, Utah	1	7	6	..	1	..	..
	3	16	3	3	10	..	..
	4	1	..	1	..	..	..
	5	1	1	..	..	..	..
	6	4	3	1	..	..	..
	12	8	6	2	..	..	..
	14	7	7	..	..	..	..
	17	13	5	1	4	..	3
	18	1	1	..	..	..	..
	19	23	17	1	..	4	1
	24	13	12	1	..	..	..
	25	1	1	..	..	..	..
	26	1	1	..	..	..	..
	28	2	2	..	..	..	..
	30	13	13	..	..	..	..
	36	1	..	1	..	..	..
	39	2	1	1	..	..	..
	43	1	..	1	..	..	..
	44	2	1	1	..	..	..
	Untyped	34	24	7	3	1	..
Keesler, Miss.	17	111	1	..	..	5	105
	19	5	5	..	..	..	..
Kingman, Ariz.	17	6	1	..	..	..	5
	30	3	3	..	..	..	..
	Untyped	2	2	..	..	..	..
Luke Field, Ariz.	17	1	..	..	..	..	1
Marfa, Tex.	1	1	1	..	..	..	..
	19	1	1	..	..	..	..
Minter Field, Calif.	17	9	..	..	1	..	8
Mitchel Field, N. Y.	14	2	..	..	..	2	..
	17	3	..	..	2	1	..
	Untyped	1	..	..	..	..	1
Santa Ana, Calif.	17	8	1	..	..	2	5
	22	29	27	2	..	..	..
Scott Field, Ill.	17	46	20	19	..	4	4
	19	5	2	2	1	..	..
	30	1	1	..	..	..	..
	Untyped	2	2	..	..	..	..
Truax, Wis.	1	4	4	..	..	..	..
	3	1	1	..	..	..	..
	5	1	1	..	..	..	..
	12	2	2	..	..	..	..
	17	28	1	5	4	2	16
	18	1	..	..	..	1	..
	19	73	34	8	6	16	9
	30	13	7	5	1	..	..
Victorville, Calif.	17	2	2	..	..	..	..

of the results in 597 of this group on a geographic basis, prepared by 1st Lt. Kathleen Shott of the AAF Sulfadiazine resistance laboratory, Kearns, Utah. Table 2 represents a summary of the total

Table 2. *Sulfonamide Resistant Hemolytic Streptococci: Summary of All Types Tested*

Type	No. strains tested	No. strains growing in various concentrations (mg. %) sulfadiazine				
		0	1	5	25	125
1	19	15	3	1	..	..
3	20	6	3	11	..	..
4	3	1	2	..	..	..
5	6	5	1	..	..	..
6	6	3	3	..	..	..
12	13	11	2	..	..	..
14	9	7	..	..	2	..
17	304	38	27	11	52	176
18	2	1	..	..	1	..
19	112	62	11	8	20	11
22	31	28	3	..	..	..
24	18	17	1	..	..	..
25	1	1	..	..	..	..
26	1	1	..	..	..	..
28	2	2	..	..	..	..
30	32	25	6	1	..	..
36	3	2	1	..	..	..
38	2	2	..	..	..	..
39	2	1	1	..	..	..
43	2	1	1	..	..	..
44	2	1	1	..	..	..
Untyped	42	29	7	3	1	2
Totals	632	259	73	35	76	189

group. Strains resistant to either 1 or 5 milligrams per cent are considered to be moderately resistant and those growing in concentrations of 25 or 125 milligrams per cent sulfadiazine are considered highly resistant. The accuracy of the method is such that in experienced hands a one tube variation in results occurs in less than 5 per cent of repeat observations on the same strain. Clinically it has been observed that strains found to be highly resistant by in vitro test are refractory to the in vivo therapeutic or prophylactic use of sulfadiazine. Examination of table 1 reveals that highly resistant strains of types 14, 17, 18 and 19 and frequent moderately resistant strains of 3, 17, 19 and 30 were observed. It is significant that with a few exceptions, the resistant strains encountered belong to the types most commonly responsible for clinical streptococcic disease during the period of this study. The high proportion and wide geographic distribution of highly sulfadiazine-resistant strains of hemolytic streptococci are such that severe infections due to streptococcic disease should be treated routinely with penicillin unless the characteristics of the causative strain are known.

RESISTANCE TO PENICILLIN

Streptococci.—Table 3 summarizes in vitro studies for penicillin resistance done during the period of September 1 to November 2, 1945, at a number of Army Air Force Laboratories. With one exception all isolates of Group A were sensitive to penicillin in concentrations of 1 unit per cc. or less. The significance of the single exception which was reported to be resistant to 1 unit per cc. is unknown as it is not now available for confirmatory study. It is of interest that it was found to belong to type 17, one of the most common disease producing types observed during this period. All of twelve isolates of Group B were resistant to concentrations of 0.125 units or higher while only 5 of 110 isolates of Group A were resistant to this concentration.

Gonococci.—Table 4 summarizes observations of 95 gonococcus isolates obtained from representa-

Table 3. *Streptococci Determinations for Penicillin Resistance*

Total cultures tested	Maximum Concentration of Penicillin to Which Resistant									
	1.0	0.5	0.25	0.125	0.0625	0.0313	0.0150	0.0075	0.00075	00
Alpha Hemolytic	0	0	1	2	6	0	1	1	0	0
Beta Hemolytic										
Group A—Total	1	1	1	2	6	35	28	22	3	11
Not Typed	0	0	0	0	0	5	1	7	0	0
Type 1	0	0	0	0	3	3	3	7	7	0
2							0	1	0	1
3	0	0	0	0	0	1	0	0	1	1
4	0	0	0	0	0	3	0	0	0	0
5	0	0	0	0	0	4	3	1	0	1
6	0	0	0	0	0	0	1	0	0	0
9	0	0	0	0	0	1	0	0	0	0
10-12	0	0	0	0	0	1	1	0	0	0
14	0	0	1	0	0	3	3	1	0	0
17	1	0	0	0	0	2	7	0	0	0
18	0	0	0	0	0	0	0	1	0	0
19	0	0	0	0	0	0	1	0	0	0
22							0	1	0	1
23				1	0	0	1	0	0	0
24	0	0	0	0	0	2	3	0	0	0
26						1	1	0	0	0
28				1	0	0	0	1	0	0
29	0	0	0	0	1	2	0	0	1	1
32	0	1	0	0	0	1	0	0	0	0
33	0	0	0	0	1	0	0	0	0	1
34	0	0	0	0	0	1	0	0	0	1
36							0	0	0	1
43	0	0	0	0	0	2	0	0	0	0
44	0	0	0	0	0	1	0	0	0	0
Group B	0	0	4	8	0	0	0	0	0	0
Group C	0	0	0	0	0	3	4	0	0	0
Group G	0	0	0	0	0	4	0	0	0	0
Group F	0	0	0	0	2	0	0	0	2	0
Group H	0	0	0	2	0	0	0	1	0	0
Group L	0	0	0	0	0	0	1	0	0	0
Unclassified		1	6	11	5	24	10	4	3	0
Total Cultures Tested	1	2	12	25	18	64	41	26	14	8

Table 4. *Determinations for Penicillin Resistance*

Number of Strains	Maximum Concentration of Penicillin to Which Resistant								
Units	1.0	0.5	0.25	0.125	0.0625	0.0313	0.0156	0.0075	Total
	0	0	1	19	60	13	2	0	95

Table 5. *Staphylococci Determinations for Penicillin Resistance*

	Maximum Concentration of Penicillin to Which Resistant								
Units	1.0	0.5	0.25	0.125	0.00625	0.0313	0.0156	0.0075	Total
Staphylococci—unclassified	1		1	2	1	1			6
Staphylococci Aureus unclassified	8			4	6	3			21
Staphylococci Aureus coagulase pos.	7		1	5	1				14
Staphylococci Aureus coagulase neg.				1					1
Staphylococci Albus unclassified	1		1	2	7	2			13
Staphylococci Albus coagulase pos.	1		1	3					5
Staphylococci Albus coagulase neg.	1				2	2			5
All staphylococcus aureus	15		1	11	7	3			37
All staphylococcus albus	3		2	5	9	4			23
All coagulase pos.	8		2	10	1				21
All coagulase neg.	1			1	2	2			6
Total Strains 65									

tive Air Forces installations. One strain grew in a concentration of 0.25 units penicillin per cc. and 80 of 95 required more than 0.0625 units for suppression. Thus, although all of the isolates observed were sensitive to concentrations which can readily be attained by the in vivo use of penicillin, they were as a group, more resistant to penicillin than Group A, hemolytic streptococci. Periodic surveys of this type, if correlated with clinical results, should be of value in helping to determine adequacy of treatment schedules and in controlling their upward adjustment if increases in resistance are demonstrated.

Staphylococci. — Sixty-five staphylococcus isolates were examined for sensitivity to penicillin. Thirty per cent of these were resistant to the highest concentration of penicillin used (1 unit per cc.). On further study several of these were shown to be resistant to concentrations of 200 units of penicillin per cc. Forty per cent of the tested isolates required more than 0.0625 units per cc. of penicillin for suppression. None of the strains tested were sensitive to less than 0.0313 units per cc. Eight of twenty-one coagulase positive strains were resistant to 1 unit per cc. or more. One of 6 per cent coagulase negative strains was similarly resistant. Fourteen of thirty-six strains of staphylococcus aureus and three of twenty-three strains of staphylococcus albus were resistant to 1 unit per cc. or more. This data is summarized in table 5.

Pneumococci. — Pneumococcus infections being infrequent during the period September 1 to November 2 only five isolates were made available for study during this period. These represented types 3, 7, 8 and 28. All but one were sensitive to 0.125 units per cc. or less. The single exception responded to 0.250 units per cc.

CONCLUSIONS

1. Forty per cent of all isolates of hemolytic streptococci examined during the period from February 23 to November 2, 1945, at a number of widely distributed Army Air Forces Laboratories were found to be highly resistant to sulfadiazine. While this does not represent adequate sampling, the incidence of resistant strains is such that penicillin therapy of all cases of severe streptococcic infection appears indicated unless it is known that the specific strain involved is sulfadiazine sensitive. Ordinarily such knowledge will not be available.

2. Strains of staphylococci resistance to more than 1 unit penicillin per cc. were observed commonly. Strains of streptococci, gonococci or pneumococci highly resistant to penicillin were not encountered.

3. The problem of resistance to antibiotics is one which will increase in importance as does the therapeutic use of these agents. At present there appears to be a species difference in the ability of different bacteria to become resistant to the various antibiotics now in common use. Sulfonamide resistant strains of gonococci, streptococci, staphylococci and dysentery bacilli have appeared. Pneumococci and meningocci apparently rarely exhibit this phnenomenon. In contrast, the staphylococcus is the only organism ordinarily sensitive to penicillin which includes a significant number of resistant strains. A number of possible explanations entirely extrinsic to the organism exist which may explain this selective development of resistance, and it may be premature to hope that ultimately all pathogenic organisms will not become resistant to now available antibiotics.

BIBLIOGRAPHY

1. Demerec, Milislav: Penicillin Resistance, A.A.F. Rheumatic Fever Control Program News Letter 2:19 (January) 1945.

2. Demerec, Milislav: Bacteriophage Resistance, A.A.F. Rheumatic Fever Control Program News Letter 2:8 (March) 1945.

3. Waisman, Morris, and Gots, Joseph S.: Topical Penicillin Treatment of Pyogenic Infections of the Skin, A.A.F. Rheumatic Fever Control Program News Letter 2:13 (June) 1945.

TREATMENT OF MINOR BURNS ACQUIRED IN THE LABORATORY AND AT HOME

SAUL MALKIEL, M.D.
AND
WILLIAM C. BOYD, Ph.D.
BOSTON, MASS.

There have been many successive changes of opinion as to the proper treatment of burns both before and during the Second World War. The ma-

jority of the war problems, however, referred to extensive and severe burns of a sort which will not be considered here. In laboratories and homes many persons constantly are being exposed to a minor type of burn, usually localized and seldom more than second degree. It seems to us that in the treatment of such burns, the methods developed for the more extensive and severe burns of warfare are usually not necessary or even preferable.

There seem to be three main desiderata in the treatment of such burns: (1) The skin should be preserved intact whenever and wherever possible, (2) infection of the burn should be avoided, and (3) the pain should be relieved. With minor burns, the skin generally is intact at first and it has been our experience that a liberal application of a saturated aqueous solution of picric acid[1] is generally enough to tan the skin sufficiently so it does not break, especially if light dry sterile dressings are used temporarily for portions of the body exposed to friction or abrasion. Picric acid, which is generally available in laboratories and can be kept readily on hand in the home, is also a mild antiseptic and anesthetic and, therefore, in large measure, answers the second and third requirements. It may be possible for picric acid treated burns to become infected without breaks in the skin made at the time or subsequently but, in our experience, we have never seen this happen. In any case, treatment with antibiotics generally would control any resulting infection. So far as the third point is concerned, the pain connected with any minor burn generally becomes negligible within thirty minutes or so after the application of picric acid.

Butesin picrate ointment, of course, provides a more powerful anesthetic action, but like all ointments it has a tendency to soften the skin and thus to encourage breaks at the site of the burn. This often leads to infection.

For the same reason we do not approve of the use of vaseline or ointments containing sulfa drugs. These ointments, although containing drugs designed to counteract an infection, nevertheless act to soften the skin and thus make it susceptible to rupture and subsequent infection from outside. Using an ointment to cure a possible infection which might never occur if the ointment were omitted hardly seems sound practice. Also, as has been pointed out by Lund,[2] local application of sulfanilamide and related compounds sometimes results in dangerously high levels in the blood.

It has been pointed out[2] that certain escharotics such as tannic acid or "triple dye" may delay the healing of burns. It is our impression, however, that picric acid treated burns heal fairly promptly, and we have recently seen a case in which sulfathiazole ointment was used in which healing, even in the absence of infection, was very slow. Of course in burns involving large areas the question of contracture and interference with circulation would be a possible objection to the use of picric acid. This does not apply to small burns, however.

The fluid in blisters treated with picric acid generally is reabsorbed, so that protein and electrolyte loss is avoided, and plasma is not needed for such minor burns.[3] The damaged portion of the skin becomes flush with the underlying portions. In properly treated patients this damaged skin generally remains until sound new skin has developed underneath it.

Allergy to picric acid is apparently possible,[4] but we have never encountered it in any of the cases observed by us.

Boston University School of Medicine.

BIBLIOGRAPHY

1. National Research Council: The Treatment of Thermal Burns. I. General Outline, New England J. Med. 229:817-823 (Nov. 25) 1943.
2. Lund, C. C.: The Treatment of Thermal Burns. II Recent Developments, New England J. Med. 229:868-873 (Dec. 2) 1943.
3. Wells, D. B.: The Circus Disaster and the Hartford Hospital, New England J. Med. 232:613-616 (May 24) 1945.
4. Tuft, L.: Clinical Allergy. Philadelphia and London. 1937.

USE OF LARGE DAILY INJECTIONS OF PENICILLIN EMULSION IN DERMATOLOGY

CHARLES C. DENNIE, M.D.
AND
DAVID B. MORGAN, M.D.
KANSAS CITY, MO.

Penicillin has been used extensively in dermatology, especially in the armed forces, during the last three years. It has been found effective against a number of types of infections of the skin and mucous membrane orifices. These include staphylococci, hemolytic and anerobic streptococci, clostridia, anthrax, erysipeloid, Vincent's organisms, actinomycosis and diphtheria.

During the last two years penicillin has been used with gradually increasing frequency in a peanut oil and beeswax suspension by intramuscular injection. This suspension was devised primarily to reduce greatly the number of injections and still maintain an adequate penicillin blood level. However, at the present with hospital beds so difficult to obtain, penicillin in an emulsion is a most satisfactory way to treat patients in the office or at home.

Recently a new suspension containing sesame oil and cholesterin has been devised. This serves as a vehicle for the penicillin, producing an emulsion. This suspension, if kept at room temperature, may be mixed readily with penicillin which has been previously dissolved in a small quantity of physiologic saline. Practically no penicillin will be wasted if it is drawn into a 10 cc. syringe containing the suspension. The emulsion may be prepared easily by shaking this mixture in the syringe with a rotary motion for a few seconds. Since the oil is not especially viscid, it may be injected through a No. 20 gauge needle, preferably of a one and three fourths inch length. The following

From the School of Medicine, University of Kansas.

sites are suitable for this intramuscular injection: upper, outer quadrant of the buttocks, anterior thighs and triceps. Although the penicillin is given in a concentrated form, the injections have produced a moderate amount of pain.

An important advantage in the use of a common 10 cc. syringe for this emulsion is that one can ascertain readily whether or not a blood vessel in the muscle has been entered. Obviously this determination is of the utmost importance; however, this detail is impossible with the special syringes designed for some of the beeswax-peanut oil preparations.

The sesame oil-cholesterin emulsion may be removed readily from the syringe by first rinsing with acetone and then with 70 per cent alcohol or hot tap water.

It is advisable to use the calcium salt of penicillin as the sodium salt is more apt to be separated from the oil in the tissues, owing to its hygroscopic nature.

It has been recommended that 300,000 units of penicillin be the daily minimum requirement to maintain an adequate blood level; however, in some of the less extensive skin infections we have used as little as 100,000 units daily with success.

Our series of twenty-five cases for this paper includes: dermatitis medicamentosa, dermatitis venenata, human bites, ecthyma contagiosum, dermatitis repens, cellulitis, epidermophytosis, acne vulgaris, granuloma annulare, hidradenitis suppurativa, scabies, staphylococcic dermatitis, seborrheic dermatitis, folliculitis barbae, atopic eczema, gunshot wound and pityriasis rosea. The majority of these cases were invaded secondarily with staphylococcus, streptococcus or a combination of both types of organisms or were a distinct entity.

These patients received from 100,000 to 600,000 units in the sesame oil-cholesterin emulsion per day. The largest single dose administered at one time was 500,000 units as it has been our feeling that a large, overwhelming initial dose is more effective than repeated, small amounts (20,000 to 40,000 units every two to four hours). Total dosage ranged from 200,000 units to 3,000,000 units.

The most dramatic response occurred in a Jewish male with ecthyma contagiosum (sheep pox). The diagnosis was made on clinical grounds, especially in view of the patient's occupation—that of assisting a butcher where contact with lamb was rather frequent. Great improvement was made in two days after one injection of 200,000 units of penicillin. On the third day he received 100,000 units. One week after his initial visit the eruption had healed completely. When first seen the eruption consisted of a shallow, necrotic ulcer, roughly 2 cm. in diameter, with undermined edges, located on the back of the left hand. Satellite, iris-type, erythema multiforme papules were studded over the backs of both hands and the forearms to the elbows. Calamine lotion was the only local adjunct, so we feel the penicillin was essentially the responsible agent here.

A 41 year old female patient with a severe nodose type of dermatitis medicamentosa from sulfathiazole was completely well in nine days after one injection of 500,000 units of penicillin. She also had a low grade, mandibular abscess following the removal of a wisdom tooth several weeks previously. This infection likewise healed following the penicillin. This patient had a temperature of 102.6 F. when first seen but it was normal within twelve hours and the lesions had regressed noticeably within forty-eight hours. Ascorbic acid tablets and Epsom salt packs were given concomitantly but it is felt they played only a minor role in this case.

Two bites on a woman's arm by an enraged man healed completely in six days. She received 200,000 units of penicillin daily for the first three days. Three days later the ulcers had epithelialized completely. Hot magnesium sulfate packs were the only additional therapeutic measures.

A male patient with a moderately severe, chronic, staphylococcic follicular impetigo was essentially cured in a five day period after receiving a total of 1,000,000 units of penicillin. On each of the first two days 300,000 units were administered and 200,000 units on the third and fourth days. No local treatment was used. The disease had been present for six months.

A staphylococcic dermatitis of the feet, present for seven weeks, was completely well in eight days. Penicillin, totaling 1,000,000 units, was administered in either 200,000 or 300,000 unit doses on four of the first six days. Local therapy consisted of mild boric acid soaks and a penicillin ointment.

A post scabetic impetiginous dermatitis of the arms and hands, of three months' duration, was dry and greatly improved when last seen eleven days after the first injection of penicillin. This man received a total of 500,000 units in four days. This included 100,000 units the first day and 200,000 units on the third and fourth days.

An acute case of hidradenitis suppurativa was much improved after 200,000 units of penicillin were given twice at seven day intervals; however, a part of the change may have been due to a small amount of staphylococcus toxoid administered on the day following the initial injection of penicillin.

A balanitis of undetermined origin (clinically having the appearance of a Vincent's infection, although smears were negative) was essentially cured in five days. The patient received 300,000 units of penicillin daily for the first three days and 30,000 units on the fifth day. Concomitant therapy included hot potassium permanganate soaks and 10 per cent ammoniated mercury ointment.

An unopened abscess on the upper lip with a surrounding cellulitis on the right cheek was completely well in four days. Three hundred thousand units of penicillin were injected intramuscularly

on the first and third days. Hot magnesium sulfate packs constituted the only local measure.

A policeman with an acute secondarily infected epidermophytosis of the feet and hands was given 200,000 units of the penicillin emusion daily for two days and 400,000 units on the third day. Four days later the exudation had ceased entirely. Mild boric acid-aluminum acetate soaks were the only other therapeutic measure.

An 8 year old girl with a severe, generalized impetigo superimposed on an atopic eczema of the ears was sufficiently well healed after 400,000 units of penicillin in two days that further therapy on the fourth day was directed solely at correction of her eczema.

A severe impetiginous dermatitis of the buttocks and perineal region superimposed on an extensive pityriasis rosea with vesicles on the palms and soles was essentially healed in five days. Penicillin was given in the following amounts: 200,000 units on the first day and 300,000 units on the third day.

A woman with a vitamin A deficiency, of three years' duration, characterized by itching, thickened, dry, dull red, slightly scaly palms with a moderate number of secondarily infected staphylococcic abscesses located on the palms, caused from scratching, received 300,000 units of penicillin in the emulsion. Boric acid ointment was applied to the lesions and a phospho-lecithin compound and 100,000 units of vitamin A daily were given orally. In two weeks all of the lesions were healed completely and all redness and scaling had disappeared from the hyperkeratotic palms. We feel that the penicillin was directly responsible for the great improvement of the abscess formation.

Dermatitis repens of the fingers of a male patient failed to show any significant response to 3,000,000 units of penicillin in six days. The patient received from 300,000 to 600,000 units intramuscularly each day. Penicillin packs were administered locally.

A young woman with granuloma annulare on the dorsum of the right foot responded poorly. After receiving 200,000 units of penicillin every other day for a total of 800,000 units, a moderate flattening of the papular border of the lesion, measuring 3 by 4 inches in diameter, was noted. The center of the lesion showed no regression.

All the remaining cases showed moderate to only slight regression of the lesions following administration of penicillin in the sesame oil-cholesterin suspension intramuscularly.

Only two patients had reactions from the penicillin. One had a mild, itching, scaly, papular erythema at the site of an old tinea cruris after receiving 700,000 units of penicillin; however, 300,000 units were given the following day without any further reaction and the eruption had completely disappeared four days after it was first observed. A second patient had an intensely pruritic erythema in the groin after receiving one injection of 300,000 units of penicillin. This area had been previously the site of an old erythrasma. The latter eruption was still present in the axillae and the borders of these lesions became quite red at the same time. The penicillin was discontinued and the erythema and itching subsided in five days with the local use of boric acid baths and calamine lotion.

SUMMARY

1. Penicillin can be administered successfully intramuscularly in large daily doses through the medium of an oil suspension. By the use of this medium patients can be treated adequately in the office or home. Thus, hospital beds, in many cases, can be conserved for patients absolutely requiring hospitalization.

2. We feel that a new suspension consisting primarily of sesame oil and cholesterin is a very satisfactory vehicle for preparing an emulsion with penicillin.

3. Injections of 500,000 units of penicillin in one dose have been administered without any ill effects.

4. The calcium salt of penicillin should be used in preparing the emulsion, due to the hygroscopic nature of the sodium salt.

5. In our present series of twenty-five cases of skin diseases so treated, impetiginous dermatitis, staphylococcic abscesses, cellulitis, ecthyma contagiosum and human bites showed an immediate response to the penicillin injections; however, dermatitis repens and granuloma annulare failed to demonstrate any appreciable improvement with penicillin.

6. Reactions occurred in only two of the twenty-five patients. Both consisted of erythema and itching at the site of previous fungus infections in the groin and lasted only a few days.

1524 Professional Building.

CASE REPORT OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCES AT BARNES HOSPITAL, ST. LOUIS

ROBERT J. GLASER, M.D., Editor

CASE 90

PRESENTATION OF CASE

J. G., a 26 year old machinist, entered the Barnes Hospital on April 1 and died on April 4, 1946.

Chief Complaints.—Skin eruption, swollen legs and hands, and sore throat.

Family History.—The patient's father died at the age of 59 from diabetes.

Past History.—The only significant illness had been an infection of the right ear following whooping cough at the age of 5. Perforation of the drum occurred; there was intermittent drainage for several years which finally subsided, but because of this episode the patient had been rejected from the Army. He had had frequent sore throats for several years. Two years before admission he developed athlete's foot on the right side; there was swelling of the right leg for which he remained

in bed for several days with apparent recovery. After two years of a college course which was interrupted because of financial difficulties, he worked as a machinist.

Present Illness.—Four weeks prior to entry, the patient noticed a small, round and slightly raised sore on the lower back which a few days later ulcerated and drained a small amount of whitish fluid. Soon thereafter, the skin of both upper arms became similarly involved. For these lesions he received a lotion from his physician who told him that he had a streptococcal infection. Then the trunk became involved. By this time some of the earlier lesions had healed. Three weeks before admission both feet and legs began to swell and there was some pain in the left leg which would occasionally awaken him at night. A few days later, lesions similar to those that had appeared elsewhere developed on the legs and thighs. These, too, ulcerated and then began to heal. At no time were red streaks noted on the skin. Swelling of the lower extremities progressed, and two weeks later the arms and hands, but not the face, began to swell. The patient remained in bed during the course of his illness, and for the last two weeks of it he believed that he had fever, but he had no chills. Five days before entry, he developed a sore throat and cough. The cough was increased on lying down, and in this position shortness of breath developed which was relieved by sitting up. On several occasions he was awakened by severe shortness of breath. The cough increased gradually with the production of some whitish sputum which subsequently became bloodstreaked. A few days before entry nasal obstruction occurred. During the illness the patient had no urinary symptoms.

Physical Examination.—Temperature was 38.5 C., pulse 92, respirations 24 and blood pressure 180/110. The patient was well developed, appeared acutely ill and was rather uncooperative. The skin was dirty. There was pallor of the mucous membranes, and the face had a sallow color. There was 3 plus pitting edema of the feet, ankles, legs, thighs and buttocks, and 1 plus edema of the hands and forearms. A shallow ulcer, 0.5 by 2 cm., was present on the medial aspect of the right midthigh, and smaller ones in various stages of healing were noticed on several other areas of the lower extremities and lower abdomen. These were surrounded by erythema and drained a moderate amount of clear watery material. The base of the ulcers was covered with necrotic granulations. Most of them appeared to be shallow and crusted over. The lymph nodes were not enlarged. The pupils reacted normally and the fundi were normal. On the right ear drum was a scar from an old perforation. There was considerable bloody crusting in the nose. The teeth were dirty and carious. On both tonsils and on the posterior pharyngeal wall was a grayish white adherent membrane. This was difficult to peel off, but manipulation was not satisfactory because the patient coughed so often. It was surrounded by a dull red blush. The lungs were normal throughout. The heart was normal in size on percussion. The rate was rapid, the sounds were of good quality and there was a diastolic gallop heard at the apex. No murmurs were audible. The liver was felt three finger breadths below the right costal margin. Neurologic examination was normal throughout except for absent vibratory sense in the lower extremities.

Laboratory Findings.—Blood count: red cells 2,790,000, hemoglobin 8.5 gm., white cells 26,400; differential count: "stab" forms 29 per cent, segmented forms 68 per cent, lymphocytes 1 per cent, monocytes 2 per cent. Urinalysis: specific gravity 1.016, albumin 4 plus, no casts and from 15 to 20 red blood cells per high power field. Kahn reaction was negative. Blood chemistry: nonprotein nitrogen 178 mgs. per cent, total proteins 5.3 gm., albumin 2.6 gm., globulin 2.7 gm., CO_2 combining power 34 volumes per cent, chlorides 104 m. eq./L, no bromides. Culture from ulcer: Hemolytic Staphylococcus aureus and albus, coagulase positive; also virulent diphtheria bacilli. Throat culture was positive for virulent diphtheria bacilli. Circulation time was 14 seconds.

Course in Hospital.—The membrane noted on admission persisted on the pharyngeal wall and extended into the nasopharynx. There were excoriations but no membrane in the anterior nares. The larynx and vocal chords were also free from membrane. Although at the time of entry reasonable doubt concerning the diagnosis of diphtheria was entertained, antitoxin was advised. Twenty thousand units were given intramuscularly, and penicillin therapy was instituted in a dosage of 40,000 units intramuscularly every two hours. The urine continued to show 4 plus albumin; red cells and numerous casts appeared. On dermatologic consultation, three suggestions were made in the following order: (1) a drug eruption, (2) tuberculids and (3) erythema multiforme. On the day following admission, the temperature rose to 39.4 C. Râles at both bases became prominent, and there definitely was more respiratory difficulty. Digitalis was given. Examination of the throat revealed a profuse postnasal discharge which obscured the membrane. On the third day the patient appeared decidedly worse. The gallop rhythm was still present. Edema persisted, as did râles at the bases, and the patient was becoming drowsy. He voided only 200 cc. the day previously and only 175 cc. on that day. The urine was dark and contained 4 plus albumin, numerous casts and a few red and white blood cells. Twenty thousand additional units of diphtheria antitoxin were given, as well as intravenous glucose and oxygen therapy. Respiratory difficulty increased and the lungs filled with râles. The pulse rose, the temperature fell and the patient expired. In the electrocardiogram, which showed only a low T wave in Lead I on admission, a Q wave appeared in Lead III and the P-R and QRS. in-

tervals increased. The blood nonprotein nitrogen remained at 178 mgs. per cent.

CLINICAL DISCUSSION

DR. HARRY ALEXANDER: This is a complicated case and it is not a simple problem to put all the parts together and make them sequential. To begin with, four weeks before entry this patient, who presumably had been well, developed a skin eruption. Four weeks later when his skin was observed by a dermatologist it seemed difficult to identify. While he was in the hospital diphtheria bacilli were recovered from one of these lesions. This brings up the question as to the possibility of whether this was diphtheria of the skin. Dr. Harford, what about diphtheria of the skin?

DR. CARL HARFORD: Diphtheria of the skin certainly occurs, and was an important disease from a military standpoint.

DR. ALEXANDER: Is diphtheria of the skin a primary disease, or does diphtheria appear only on abrased surfaces or in some other preceding lesion?

DR. HARFORD: I think that it is necessary to have some preceding lesion. In an epidemic of diphtheria reported recently which occurred on the tropical islands many of the men had abrasions and ulcers on their extremities incurred on the coral reefs, and some of those men had cutaneous diphtheria.

DR. ALEXANDER: Do you agree, Dr. Wood, that one must have an abrasion or a preceding lesion on the skin, and that diphtheria primarily does not cause an eruption?

DR. W. BARRY WOOD, JR.: I think that is correct, Dr. Alexander. The diphtheria bacillus rarely invades uninjured tissue. Everyone knows it acts through its toxin rather than by invasion, whereas an organism like the streptococcus invades the tissue and also produces a toxin.

DR. ALEXANDER: In this instance the diphtheria bacilli were recovered from the skin, but the patient also had diphtheria bacilli elsewhere. Is it your impression, Dr. Harford, that the pharyngeal diphtheria came first and that the skin was infected secondarily?

DR. HARFORD: I really would have no way of telling. I know that it was the impression in the army that pharyngeal diphtheria was secondary, but the reason given was only a fair one. I think that 38 per cent of the cases in one series had positive Schick tests at the time they developed cutaneous diphtheria. This indicates that probably they had not had preceding pharyngeal diphtheria or otherwise they would have had an immunity.

DR. ALEXANDER: Do you not think that is remarkable?

DR. HARFORD: I do not think this evidence is conclusive. I think it is suggestive.

DR. ALEXANDER: Do you believe there is a possibility in this case that the patient developed some sort of a skin lesion—it would make the case much simpler if it were so, considering some of his complications—that he had a diphtheria invasion of the skin lesion, and then some weeks later developed diphtheria in his throat?

DR. HARFORD: Yes, that is a good possibility.

DR. ALEXANDER: I had not thought of that because I did not realize it could go that way. I merely assumed that he had diphtheria in his throat. Dr. Weiss, you saw these lesions and I think that it was your opinion quoted on the protocol.

DR. RICHARD WEISS: They were extremely difficult to identify, and I think that perhaps the doctor who saw the patient in the outpatient clinic had the best idea. It was his idea that these lesions were primarily pyoderma. I got the impression from the few days I saw him and from reading the history again carefully that he had pyoderma to start with, and that the diphtheritic infection of some of these ulcers was secondary to the pharyngeal diphtheria. He was not especially ill when he first had these ulcerations on the skin. Some of them resembled an iodide eruption, some a bromide eruption, in other words, pyoderma of various types, which was not at all characteristic. Then the man became ill, apparently with diphtheritic infection of the pharynx, following which the already infected skin areas became involved by diphtheria.

DR. ALEXANDER: You feel, therefore, that the pharyngeal diphtheria probably came first?

DR. WEISS: The exanthematous ulcerations first, then the pharyngeal diphtheria and then superinfection of the skin lesions.

DR. ALEXANDER: You are suggesting that this might be primarily staphylococcal pyoderma. The staphylococci were coagulase positive. Dr. Harford, what is the significance of a coagulase positive staphylococcus?

DR. HARFORD: There is a very high correlation between pathogenicity of a staphylococcus and a positive coagulase test.

DR. ALEXANDER: There may well have been an invasion by a pathogenic organism causing these lesions. Did it look like diphtheria of the skin to you, Dr. Weiss?

DR. WEISS: Diphtheria of the skin has no characteristic appearance. I have seen only two cases of it. One was a curious ulceration below the knee in a child who came into the hospital with low grade fever. We did not know what the diagnosis was. I was inclined, when I first looked at it, to call it a pyodermic ulcer, but there was a grayness about it. A culture of the lesion was positive for diphtheria. In the other case there was an ulceration about the nose. In reading about these lesions I find that they can have almost any appearance. They apparently can resemble a pyodermic ulceration, a fulminating ulceration, a profuse eruption of pustules, and various other types; thus one may not think of diphtheria in connection with a skin lesion unless his attention is directed to the diagnosis by a concomitant pharyngeal lesion. There is nothing characteristic about the majority of the different in-

fections that were described here. I do not know much about the lesions that were described in the Army reports. Was there anything characteristic about them?

Dr. Harford: Many were not characteristic, but on the other hand it seems that the commonest ones were punched out ulcers without much surrounding erythema and with a dirty gray membrane or exudate at the base which exuded clear watery fluid.

Dr. Alexander: This morning at grand rounds we saw a patient who had infectious mononucleosis with an eruption, and the same statement was made; namely, that it too may be associated with all sorts of eruptions. The patient had a sore throat five days before entry; we presume this was diphtheria, and that would imply that he acquired the infection shortly before the appearance of his sore throat. In other words, the incubation period is short. It was, therefore, about a week or less before entry that he developed the pharyngeal diphtheria. He was quite ill when he came in and he received antitoxin immediately. This man was 26 years of age, a little old for diphtheria, but he must have been susceptible. What is the percentage of the population that is immune to diphtheria?

Dr. Harford: About 10 per cent have positive Schick tests.

Dr. Alexander: Then 90 per cent are presumably immune. In children, the percentage of those immune is less. Is this natural immunity or does it have anything to do with diphtheria itself?

Dr. Harford: There are two opposing viewpoints. There is a school of thought that considers the antibodies in the blood, which are demonstrable, to be natural antibodies and to be due to natural maturation processes. The other school of thought attributes the development of immunity to repeated subclinical infections.

Dr. Alexander: When the diphtheria toxin is absorbed it has an affinity for certain tissues. Once fixed, can it be neutralized with antitoxin?

Dr. Harford: No.

Dr. Alexander: In other words, the damage is done. Then what does antitoxin do?

Dr. Harford: It merely prevents further damage. In connection with immunity I was surprised to read that many patients developed diphtheria in spite of the fact that the Shick test done within the preceding two months had been negative.

Dr. Alexander: You refer to diphtheria of the skin and not to pharyngeal diphtheria?

Dr. Harford: Yes. It is possible that the antibody was not as available for the skin as it might have been elsewhere.

Dr. William Olmsted: Since there was some thought that the skin lesions might be due to a drug and since there apparently was nephritis from the very beginning, should we not consider, since the history is uncertain and unreliable, that the patient might have been given a sulfonamide and developed sulfonamide nephritis, and that the skin lesion was due to the sulfonamide with the diphtheria bacillus a secondary invader?

Dr. Alexander: That is a very good suggestion. Let us come back to that presently when we discuss nephritis.

Dr. Wood: Dr. Alexander, I would like to make a comment here. I think that members of the staff who handled this patient should be congratulated. It was very difficult to make a diagnosis of diphtheria in this case. The man was 26 years old. There was no definite evidence pointing to diphtheria other than the exudate on the tonsils. The throat looked a little bit suspicious, but certainly one could not explain the whole clinical picture on the basis of diphtheria. The patient obviously had nephritis too. In spite of this, the house staff went ahead and gave a very liberal dose of antitoxin.

Dr. Palmer H. Futcher: I believe that some reports state that an extremely large dose of antitoxin is required and here we have only recorded 20,000 units given.

Dr. Alexander: But 20,000 units were given the next day, within twenty-four hours, and I believe that is a sufficient dose.

Dr. Harford: It depends upon the condition of the patient, his age and many other factors. The main thing is to give a large dose of antitoxin. It is better to overshoot than to undershoot.

Dr. Alexander: Dr. Massie, the patient had a rapid pulse and a diastolic gallop rhythm. Is that what one is apt to hear in the heart in diphtheria?

Dr. Edward Massie: Actually, one may not hear much of anything in the heart in diphtheria. The man was very ill, he had a rapid heart, gallop rhythm, and he terminally appeared perhaps to have died a cardiac death; occasionally occurs in diphtheria patients. One does not frequently see an electrocardiographic change, and there was none in this patient. Diphtheria with bundle branch block or complete heart block is uniformly fatal. This patient developed no conduction defect except that his I-V conduction became full, that is, 0.10 seconds. He did, however, show other changes. I looked over the record this morning and it indicated that diphtheria did have an effect on his myocardium, or else he may have had concomitant trouble in his lungs such as a pulmonary embolus with pulmonary infarction.

Dr. Alexander: Is heart block in diphtheria a common lesion?

Dr. Massie: There are two infectious diseases that produce heart block. One is rheumatic fever and the other is diphtheria. In rheumatic fever it is not a serious sign. In two series of patients with diphtheria and bundle branch block or complete heart block, one at the Boston City Hospital and one at the Massachusetts General Hospital, all the patients died.

Dr. Alexander: The diphtheria toxin has an affinity for nerves or for nervous tissue. When the heart becomes involved, is it due to an involvement of the nerves in the heart such as the bundle or the neuromuscular mechanism, or is it due to the toxin's having an effect on the muscle?

SEARLE RESEARCH

has produced an improved AMINOPHYLLIN SUPPOSITORY



AMINOPHYLLIN
SUPPOSICONES

Searle brand of
AMINOPHYLLIN
SUPPOSITORIES

This new suppository—known as the Searle Aminophyllin Supposicone—has these advantages:

1. It remains stable outside the body at temperatures up to 130° F.
2. It liquefies rapidly inside the rectum at normal body temperature.
3. It is nonirritating to the rectal mucosa; no anesthetic is required.
4. It provides an excellent vehicle for prolonged medication.
5. It contains 500 mg. (7½ gr.) of Searle Aminophyllin, having at least 80% of anhydrous theophyllin.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

Supposicone is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

Dr. Massie: It affects the heart in three ways: it may act directly on the myocardium giving interstitial myocarditis, necrosis and hemorrhages; on the vagus, producing a vagus paralysis—that is one of the reasons for the severe tachycardia; and thirdly, on the conduction bundle which is partly nervous in its structure. In this particular patient we will have to assume that perhaps there was a vagus effect and that there was perhaps a myocardial effect. There certainly was no conduction bundle defect.

Dr. Alexander: Do you feel, however, that he died a cardiac death with pulmonary edema?

Dr. Massie: He may have died a cardiac death as a result of three factors. He had nephritis; he had diphtheria; and, if he had also an acute infection with complications, I think all three factors entered into it. He may have had some interstitial myocarditis due to diphtheria.

Dr. Alexander: You spoke of his pulmonary difficulty. Dr. Goldman, you may recall that before this man came in he began to cough. He coughed soon after he had the sore throat. He could not lie down because of shortness of breath, and yet when a laryngoscope was used there was no membrane on his larynx as far down as one could see. Do you believe it possible that we will find a pulmonary or a bronchial lesion, or are we sure that this is just pharyngeal?

Dr. Alfred Goldman: I do not believe that there could have been anything in the trachea.

Dr. Alexander: On admission, nothing was heard in the lungs except that there were signs of pulmonary edema, and the question is: May one have a lesion in the bronchi without one in the larynx? One certainly can have a cast of the bronchi.

Dr. Goldman: I think it would be very unlikely.

Dr. Alexander: Do you know anything about that, Dr. Wood?

Dr. Wood: You are asking whether you can have diphtheritic bronchitis without laryngitis?

Dr. Alexander: Either diphtheritic bronchitis or a diphtheritic cast.

Dr. Wood: I do not believe that that occurs very often if it occurs at all. I would like to ask Dr. Moore that question.

Dr. Robert A. Moore: From the samples I have seen, Dr. Alexander, diphtheria that involves the bronchi of the lung has a diphtheritic membrane all the way down. However, I have seen only a few cases. It is not a common lesion.

Dr. Alexander: We have had one here not so long ago in which there was a whole cast.

Dr. Wood: Dr. Alexander, may I comment about the myocarditis? Certain investigators[1] have pointed out that there are two kinds of myocarditis which occur with diphtheria. One occurs early in the disease, from the fifth to the ninth day, and has different clinical characteristics from the kind that Dr. Massie was talking about; the latter occurs at about two weeks and there is a myocarditis in which the pathologist can demonstrate cellular infiltration of the myocardium proper. The early form is due apparently to the action of the toxin directly on the myocardium; it may lead to death in cardiac failure but without the usual signs of cardiac failure; in other words, no gallop rhythm, no changes in the electrocardiogram. This man, if he died of diphtheritic myocarditis, died of the early type, had no electrocardiographic changes and had a gallop rhythm only terminally. I think it is possible that he did have the early type of diphtheritic myocarditis, in which case Dr. Moore ought to show us hyaline degeneration in the myocardium itself without cellular infiltration. It is said that the healing of the acute myocarditis brings on the picture of diphtheritic myocarditis later in the disease.

Dr. Alexander: The later type is identified to some extent also with other paralytic phases which come on after the first or second week.

Let us turn to the curious complication of nephritis. Clinically, the patient had generalized edema, although the face was not involved, three weeks before admission. When he was admitted he had hypertension and he had signs of acute glomerulonephritis. Dr. Olmsted made the interesting observation that this may have been due to sulfonamide; this would fit into the picture. Dr. Harford made the suggestion that perhaps diphtheria of the skin began quite early in this disease before the pharyngeal diphtheria, and one may consider, therefore, nephritis as a complication of diphtheria. Dr. Wood, what about nephritis as a complication of diphtheria? Does it occur?

Dr. Wood: I tried to look it up at the time that I saw this patient and I found very little about it. There are occasional cases of nephritis that have been described with diphtheria, but there is no good evidence to my knowledge that the nephritis is due to the diphtheria organism or to the diphtheria toxin.

Dr. Alexander: Let us ask Dr. Moore about the statements I had occasion to see: that one finds renal lesions in diphtheria much more frequently than one finds symptoms of nephritis and that it is not uncommon to find considerable structural damage although it is rare to find it clinically. Is that correct?

Dr. Moore: Yes, Dr. Alexander, in diphtheria, along with many of the other infectious diseases, not infrequently there is in the kidney a characteristic lesion of acute interstitial nonsuppurative nephritis, but that is quite different from acute glomerulonephritis.

Dr. Wood: To which were you referring, Dr. Alexander?

Dr. Alexander: I merely saw the statement about acute nephritis and structural kidney damage without clinical symptoms, and from Dr. Moore's explanation I quite agree with you. Dr. Futcher, do you believe that this nephritis may be due to pyoderma?

Dr. Futcher: Nephritis secondary to various infections of the skin has been reported as occurring



Synchronizing pituitary and ovary

When menopausal symptoms betoken an imbalance between the pituitary gland and ovary, PROGYNON-B (alpha-estradiol benzoate) injected intramuscularly will restore endocrine equilibrium safely, smoothly and more rapidly than any other estrogen. Therapeutic effects last from five to eight days depending on the dose administered and the severity of hormone deficiency.

PROGYNON-B

DOSAGE: For average menopausal symptoms 0.33 mg. (2000 R.U.) once or twice weekly. Severe symptoms, as after surgical or x-ray castration, may require 1.0 mg. to 1.66 mg. (6000 to 10,000 R.U.) per injection.

PROGYNON-B available in ampules of 1 cc. containing 0.08 mg. (500 R.U.), 0.16 mg. (1000 R.U.), 0.33 mg. (2000 R.U.), 1.0 mg. (6000 R.U.) and 1.66 mg. (10,000 R.U.).

Trade-Mark PROGYNON-B—Reg. U.S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD, NEW JERSEY

IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL



For patient of intermediate or stocky type-of-build.

FOR AMBULATORY PATIENTS with INJURIES OR DISEASES of the LUMBAR SPINE



For patient of thin type-of-build.

CAMP lumbosacral supports are widely recommended by orthopedic surgeons and physicians.

An important factor in the good results reported from their use is that they extend downward over the sacroiliac and gluteal regions. The Camp adjustment provides exceptional restraint of movement.

In more severe lesions, aluminum uprights or the Camp spinal brace are easily incorporated.

Camp lumbosacral supports are moderately priced.

CAMP

ANATOMICAL SUPPORTS

S. H. CAMP & COMPANY • Jackson, Mich. • *World's Largest Manufacturers of Scientific Supports*

Offices in NEW YORK • CHICAGO • WINDSOR, ONTARIO • LONDON, ENGLAND

with varying frequency. Some people record it very rarely, about 1 per cent of all nephritides; other people have reported it, particularly in Germany, as high as 20 per cent and then particularly secondary to impetigo and they have a term, impetigo nephritis. In Baltimore, in Dr. Longscope's group of carefully followed kidney cases, of approximately 150 cases in the group A nephritides—those are nephritides classified by Dr. Longcope as coming on after an acute infection, as compared to the insidious group B nephritides in which there is the onset of insidious edema—11, or 7.2 per cent, were associated with infections of the skin.[2] These infections of the skin included paronychia, several cases of erysipelas, several cases of impetigo and pyoderma engrafted on eczema. Whether those cases of acute nephritis associated with the infections of the skin actually were secondary to the infections of the skin or whether they might not have been due to some other infection is questionable, because many of these patients, seven of eleven, had positive cultures of streptococci from the throat. Seven of them had positive cultures of streptococci also in the skin lesions.

DR. ALEXANDER: Were some of them staphylococci as in this case, or were they all streptococci?

DR. FUTCHER: All of those cultured had streptococci; some of them in addition had staphylococci.

DR. ALEXANDER: I think our time is about up, and I shall ask for questions. I understand that the sequence of this disease was that the patient developed a skin eruption which may have been a drug eruption. He then developed nephritis, then developed diphtheria which was primarily in the skin or primarily in the pharynx, and then probably developed myocardial changes.

DR. WOOD: What drug did he get for his skin infection?

DR. ROBERT J. GLASER: We were never able to find out, Dr. Wood. It may well have been one of the sulfonamides.

DR. WOOD: In relation to Dr. Olmsted's point, Dr. Alexander, it might be said in general that patients who have sulfonamide nephritis do not get hypertension of this degree, and I think the fact that the blood pressure was 180/110 suggests that this is more likely glomerulonephritis than sulfonamide nephritis.

STUDENT: What about the palpable liver?

DR. ALEXANDER: The liver was felt two finger breadths below the costal margin, and it might have been due to cloudy swelling from the infection. I think it would be difficult to evaluate.

STUDENT: How do you account for loss of vibratory sense?

DR. ALEXANDER: Well, many patients who are very ill have a loss in vibratory sense. I think it would be difficult to answer this question also.

STUDENT: How can you make the clinical diagnosis of acute interstitial nonsuppurative nephritis?

DR. FUTCHER: I do not know; probably by the occurrence of albuminuria. I would like to ask Dr. Moore.

DR. MOORE: I do not really know. I do not think there is any distinctive factor by which one can separate clinically this nephritis from others. It is a matter of the severity of the symptoms. There may be albuminuria and oliguria without hypertension or hematuria.

ANATOMIC DIAGNOSES*

Multiform vesicular, pustular, and ulcerative dermatitis and scars over trunk and lower extremities (culture during life of Hem. Staph. albus and C. diphtheriae, gram positive cocci only in the tissue).

Acute glomerulonephritis.

Hypertrophy and dilatation of the heart.

Necrotizing fibrinous tonsillitis (history of isolation of C. diphtheriae; C. diphtheriae in the tissue).

Bronchopneumonia of all lobes of the lungs.

PATHOLOGIC DISCUSSION

DR. ROBERT A. MOORE: As I have said on many other occasions, the larger the kidney the more likely the diagnosis of acute glomerulonephritis. Certainly when a kidney weighs 300 gm., is pale, and when the cortex is greatly thickened, the most likely diagnosis in the gross is acute glomerulonephritis. Nephrotic kidneys, acute nephroses of one type or another, occasionally reach the weight of 300 gm. This patient also had hypertrophy and dilatation of the heart, the heart weighing 520 gm. I think those two are the important observations in the gross autopsy protocol.

The microscopic findings in the kidney are of special interest. Figure 1 shows a characteristic sec-

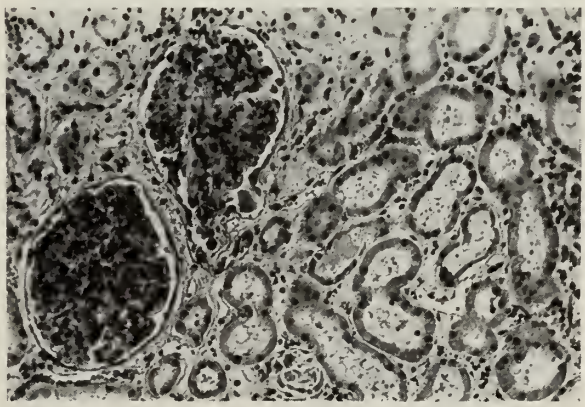


Fig. 1.

tion of the two kidneys. The tubules are separated and when the interstitial tissue is examined carefully it is seen that the individual fibers are separated; that there is no increase in the number of fixed nuclei; and that there is slight cellular infiltration with lymphocytes and a few polymorphonuclear leukocytes. In other words, this is an acute

*This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

change in the interstitial tissue and does not represent any increase in connective tissue. From the standpoint of the interstitial tissue this patient did not have any chronic disease of the kidneys. Second, the tubular epithelium of the proximal convoluted tubules is relatively low. The lumen is filled with a granular debris of precipitated protein, and the nuclei vary in their density and staining properties and in their distribution, indicated again a relatively acute injury to the tubular epithelium. Third, the glomeruli are large. They fill the glomerular capsule for the most part, and there is a definite increase in the number of nuclei in all of the glomeruli. This increase is represented in part by proliferation of the endothelial cells and in part by blocking of the capillaries by mononuclear cells and polymorphonuclear leukocytes. There are a large number of polymorphonuclear leukocytes throughout the glomerular capillaries. It is also seen, if this section be taken as representative, that there is pathologic change in every glomerulus. This is not a focal disease; it is not a lesion that involves a few of the glomeruli. There is some pathologic change in the nature of an inflammatory process in 100 per cent of the glomeruli. In the other sections some of the details of the pathologic changes in the glomeruli are seen; there is a relative increase in the number of nuclei within the glomerulus (fig. 2). It may be taken as the top

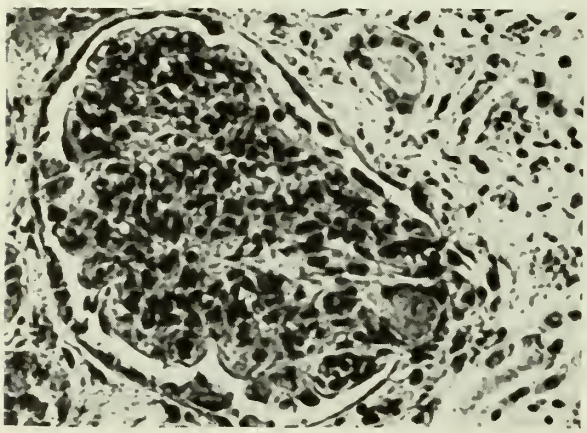


Fig. 2.

normal that in the midsection of the glomerulus, the largest diameter, there should not be more than fifty nuclei in the single glomerulus. These glomeruli contain many more than fifty and many of the cells are polymorphonuclear leukocytes. There should normally be only a very few. In figure 2, an entering blood vessel of a glomerulus is seen, and there is necrosis of its wall. In some there are thrombi, producing infarcts of individual glomeruli. Thus, there are, in addition to all of the changes described of inflammation in the glomeruli, the changes of malignant hypertension. In figure 3, there is an interesting phenomenon upon which a certain interpretation can be placed. Part of the glomerular mass has been forced down into the

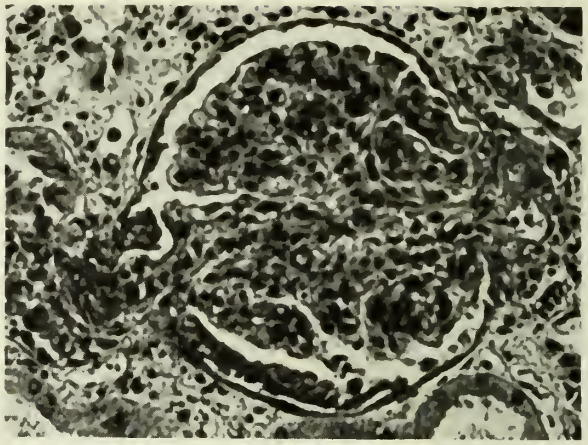


Fig. 3.

proximal convoluted tubule, indicating that there was tremendous swelling and edema of this glomerulus during life; a similar situation may be seen when a part of the brain, for example, is forced through one of foramina by increased pressure.

In another section a hyaline thrombus was seen completely occluding the efferent arteriole of a glomerulus. Once again the interstitial edema, cellular infiltration, the precipitation of albumin in the tubules, and the presence of polymorphonuclear leukocytes in a few of the tubules, were seen; all of these changes are part of the picture of acute glomerulonephritis. A section was stained to show connective tissues in order to afford evidence of the duration of the glomerulonephritis. The typical proliferative change, the so-called crescent over the top of this glomerulus in which there is proliferation of the epithelial cells of Bowman's capsule was noted; these cells were beginning to deposit collagen. These findings indicate that the patient had glomerulonephritis for that period of time that it takes the fibroblast to begin to deposit collagen, a matter of weeks, not months. Furthermore, when the glomerular basement membrane was examined carefully, in order to determine whether or not the patient had renal disease before the onset of glomerulonephritis, it was found that the basement membranes were not thickened. The patient, so far as the anatomic lesions in the kidney are concerned, did not have nephrosclerosis before the onset of the glomerulonephritis.

It is well to consider these findings in some detail because this patient did have hypertension in the small arteries and arterioles. For example, in the liver, in a part of the portal space, there is definite thickening of the walls of the blood vessels (fig. 4). That thickening is brought about by hypertrophy of the media. Returning to the chronology of events in arteriosclerosis, there is good reason to believe that the primary change is hypertrophy of the media. This is followed by hyalinization of the media and by thickening of the intima and

Benzedrine Inhaler, N.N.R.

"... is quite effective in the clearing of nasal congestion due to allergy or infection"

Feinberg, S. M.: Allergy in Practice,
Chicago, The Year Book Publishers, Inc., 1944, p. 502.

Your hay fever patients will be grateful...particularly between office visits...for the relief of nasal congestion afforded by Benzedrine Inhaler, N. N. R.

The Inhaler may make all the difference between weeks of acute misery and weeks of comparative comfort.

Each Benzedrine Inhaler is packed with racemic amphetamine, S.K.F., 250 mg.; menthol, 12.5 mg.; and aromatics.



Benzedrine Inhaler

a better means of nasal medication

ACCEPTED MEDICAL ASSN.

Smith, Kline & French Laboratories, Philadelphia, Pa.

The Mark of Distinction

★A Doctor's Degree is his Mark of Distinction.....

earned by years of study and hard work . . . . assuring special knowledge and skill in the science of his profession to those he serves.

★Specialized Service is our Mark of Distinction.....

signifying exclusive application to the field of Professional Protection . . . . assuring special knowledge and skill in the science of protection against malpractice charges to those we serve.

★

We Lead Because We Specialize

★

THE

MEDICAL PROTECTIVE COMPANY

FORT WAYNE, INDIANA

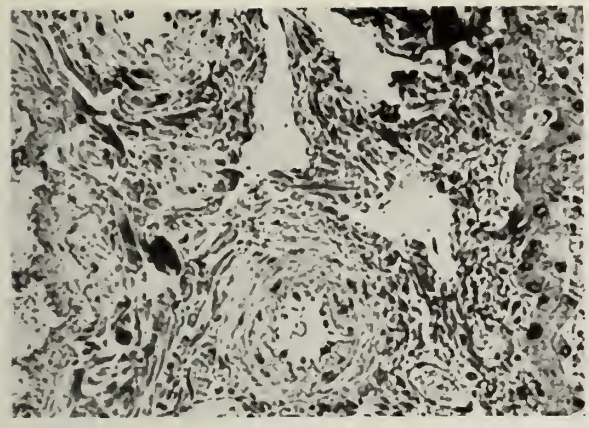


Fig. 4.

hyalinization of the intima. Attention is called to the fact that in this patient the anatomic changes in the blood vessels are limited to hypertrophy of the media with the beginning changes of arteriosclerosis.

Section 5 is from a tonsillar crypt; it shows the tissue of the tonsil and one of the crypts filled with a fibrinous exudate containing many lymphocytes, a few polymorphonuclear leukocytes and many karyorrhexic cells (fig. 5). In bacterial stains of this tissue, in the fibrin, pleomorphic, relatively large bacilli containing granules can be identified. Therefore, anatomically, on the basis of histologic change and the identification of morphologically similar organisms, the diagnosis of diphtheria is confirmed.

Another section of the tonsil illustrated the change in the epithelium in diphtheria. The epithelium underneath a diphtheritic membrane is in part destroyed and in part retained, and in many places the cells are pleomorphic and show multinucleation. In some arterioles in the region of the tonsil there was thickening of the wall, and in some areas necrosis of the wall.

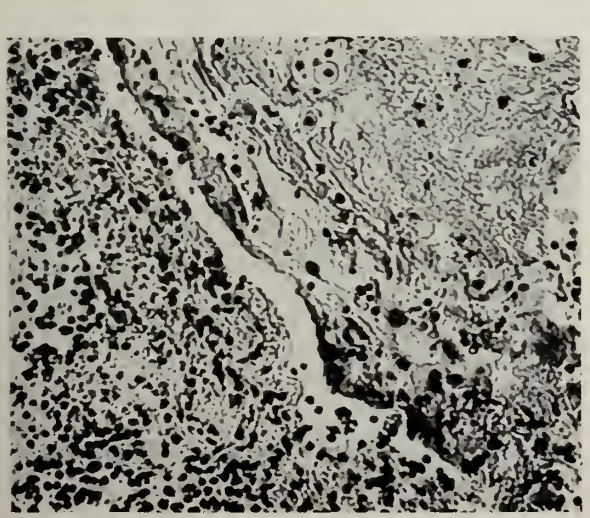


Fig. 5.

In the myocardium there was neither cloudy swelling nor Zenker's hyalin change in the muscle. There certainly was no interstitial myocarditis. Practically, therefore, diphtheria may be eliminated as a cardiac complication playing a major role in the death of this patient. Perhaps, as Dr. Wood has pointed out, the type of physiologic change in the heart related to diphtheria can not be seen in the anatomic section. The lungs did not show any lesion other than edema and bronchopneumonia in a few places.

This patient had bilateral hydrothorax with 50 cc. of fluid in the left cavity and 75 cc. in the right. He had 50 cc. of fluid in the pericardium, 100 cc. in the peritoneum, congestion and edema of the lungs, and congestion of the liver and spleen, so that cardiac failure did not play a prominent part in bringing him to his death.

Finally, figure 6 shows a section of the skin in which the characteristic ulcerative lesion is seen.



Fig. 6.

At the junction of the epithelium and the ulcer, fibrinous exudate begins; at the base of the ulcer are the surviving tissues. There is extreme edema of the dermis, splitting apart of the epithelium and edema of the epidermis. Sections of the lesion stained for bacteria show many cocci, but no organisms morphologically similar to the diphtheria bacillus. The general dictum is that the more other bacteria present in a lesion, the less diphtheria bacilli found; that is, the number of diphtheria bacilli is in inverse proportion to the number of other bacteria.

Passing now from the factual material observed at autopsy, it is of interest to consider a few of the problems in connection with this case.

What is the relation of the skin disease to the glomerulonephritis? There is evidence which suggests that the glomerulonephritis is of a duration of weeks, not months, and therefore, it has a chronologic relation to the skin disease. Dr. Futcher has observed that there may be a relation between staphylococcal or streptococcal disease and neph-

ritis. It may be concluded that there was a relation between the two in this instance and that probably the skin disease came before the glomerulonephritis.

What is the relation of diphtheria to the lesions and to death? There is no interstitial myocarditis. The diphtheria is a relatively mild disease in the histologic preparations. As diphtheria goes, the surface of the tonsil shows very little, and most of the diphtheritic membrane is confined to the crypts. There is necrosis of the arterioles in the immediate vicinity of the tonsil, and there is necrotizing disease of the arterioles of the kidney. Therefore, it may be postulated that there was a direct relation between the onset of the diphtheria and the immediate death of this patient in a matter of days thereafter. He might have died even without the diphtheria, but the disease probably precipitated his death.

How long did this man have hypertension? Since there was apparently no preceding anatomic lesion of the kidney, the renal disease is confined to the history of about four weeks. Correspondingly it can be concluded at least by a pathologic anatomist that the hypertension was of approximately the same duration.

The fact that a man with a glomerulonephritis, which I have concluded was for the duration of three or four weeks without preceding hypertension, had hypertrophy of the heart up to 550 gm. was rather intriguing. That the heart could undergo such hypertrophy in four weeks is surprising. Figures from Eyster[3] show that in dogs, when a constricting band is placed on the aorta for from four to six days and then removed, there is dilatation for from three to six days thereafter. When the heart returns to normal volume, hypertrophy then ensues and is completed in about eighty days. In other words, given a single stimulus to produce hypertrophy, a heart will undergo such hypertrophy in eighty days. If another band is put on, the heart will undergo greater hypertrophy. In normal men the heart weight is 43 per cent of the body weight. This man weighed 88 kg., some of which possibly was fluid. Therefore, his heart should weigh at a maximum 380 gm. It actually weighed 520 gm., an increase of 140 gm., or 37 per cent. As far as can be seen, since there is no anatomic evidence to the contrary, this degree of hypertrophy occurred in a period of four weeks despite the fact that it seems to be a very short period of time.

In summary, therefore, the pathogenesis may have been as follows: This man had normal kidneys and blood vessels before his terminal illness which started about four weeks ago. He then developed a staphylococcal infection of the skin. At that time there was a complication in that he also developed glomerulonephritis. From that, hypertension and dilatation of the heart were produced, and in turn were followed by hypertrophy of the heart and the beginning of arteriolosclerosis. The onset of diphtheria occurred some eight to ten days before his death. There was further toxic damage to his kidney, and uremia with a nonprotein nitrogen of 174 mgs. per cent. The hypertension and uremia precipitated malignant hypertension with necrosis of arterioles so that he died of renal insufficiency and failure of the heart.

REFERENCES

1. Schwentker and Noel: The Circulatory Failure of Diphtheria, Bull. Johns Hopkins Hosp. I. 45:276, 1929; II. 46:259, 1930.
2. Futcher, P. H.: Glomerular Nephritis Following Infections of the Skin, Arch. Int. Med. 65:1192, 1940.
3. Eyster, J. A. E.: Cardiac Dilatation and Hypertrophy, Tr. A. Am. Phys. 42:15-21, 1927.

SPECIAL ARTICLE

MEDICINE IN MISSOURI

GOVERNOR PHIL M. DONNELLY
JEFFERSON CITY, MO.

In addressing the Eighty-eighth Annual Session of the Missouri State Medical Association, I feel that I am speaking to one of the most significant and important groups which it has been my privilege to appear before during the last year. Missouri, as a state, has progressed in many fields of human endeavor, but in no one of them have greater accomplishments been recorded than in the medical profession. Those who have followed medical progress in Missouri can be justly proud of your accomplishments. The medical profession of this state has demonstrated great leadership, which has attracted national attention.

This is the first convention of your great Association since the ending of the war, and I would like to say a word about the record of Missouri doctors in the war period. More than nine hundred and fifty practicing physicians of our state served in the Army, Navy and Marine Corps during the vast world conflict. On every continent of the world, on all the major battlefronts, on land and on the seven seas the doctors from Missouri carried on. In doing so, they performed services of the highest character, discharging duties as important as any of those connected with front line battle service. Missouri is proud of its war record. Missouri is proud of its doctors who did their full part as their contribution to winning the war. And while speaking of the war period, the physicians who carried on at home while those who could enter the service of their country were at the various fronts, deserve their share of commendation. There was never a time in the history of this country when greater burdens were carried by practicing physicians than those that were made necessary here at home during the war. Long hours, long lines of waiting patients, urgent calls day and night for medical aid and services made the life of doctors on the home-front a continuous burden of heavy responsibility. They discharged these duties nobly and, while their

Presented at the Annual Banquet of the Missouri State Medical Association, March 25, 1946, St. Louis.

COSEASONAL TREATMENT OF HAY FEVER

Worthwhile relief can be obtained in a large percentage of pollinosis cases if hyposensitization treatment is begun on manifestation of symptoms.

Coseasonal treatment offers the added benefit of helping to establish the patient's tolerance to the specific pollen sensitivities. This aids in preparing the way for perennial treatment which, it is estimated, affords relief to 80 to 90 per cent of sufferers.

CONVENIENCE AND SIMPLICITY

The *Arlington* POLLEN TREATMENT SET is designed to conveniently facilitate hyposensitization. Each treatment set contains five 3-cc. vials of graduated dilutions (1:10,000, 1:5,000, 1:1,000, 1:500, and 1:100) of pollen antigen, especially prepared to cover the patient's individual pollen sensitivities.



ARLINGTON POLLEN TREATMENT SET $7.50

THE ARLINGTON CHEMICAL COMPANY
YONKERS 1 *Arlington* NEW YORK

brothers were with the fighting men, they looked after the health of our citizens at home. They did a splendid job, which we will never forget.

During the war there were two general hospital units in St. Louis. The Twenty-first was made up of physicians, nurses and enlisted men from Washington University and was activated just a few days after Pearl Harbor and served continuously during the entire European conflict. Many awards were made by the chief of staff to this fine unit and its men for their accomplishments. The St. Louis University unit, known as General Hospital Number Seventy, composed of graduates of medical, dental, nursing and other schools of that university, was activated soon after the war began and also served with great distinction in the European theater.

And, speaking of Missouri's accomplishments during the war, mention should be made of an outstanding event that brought great honor to the state. This was the awarding of the Nobel prize to two citizens of St. Louis. This great prize was awarded to Dr. Edward A. Doisy, Professor of Biochemistry, for his research and discovery of vitamin K. This proved to be vitally helpful in controlling hemorrhage of our wounded soldiers, as well as for other purposes. The Nobel prize was also awarded to Dr. Joseph Erlanger, Professor of Physiology, for his notable research in the field of nerve physiology. These were outstanding achievements that would have brought great renown at any period in our history. They merely highlight the accomplishments of the medical profession of St. Louis and of Missouri during the war.

They also clearly emphasized the St. Louis combination of medical facilities and personalities, and Missouri's leadership in medical education and public health service. St. Louis is nationally known as a medical center. The two universities in this great city, St. Louis University and Washington University, both have nationally known medical schools. Students come here from all over the United States to attend these two splendid institutions.

All of this indicates that the first city of Missouri has a claim to leadership in public health, science and practice, as it has in so many other fields of human endeavor.

I have noted with a great deal of interest that the medical men of this great community, early in the history of this state, assumed leadership in another respect. This was in their recognition of the responsibility of their profession to the community and to the state. I refer to the fact that the Missouri State Medical Association had its origin in this city. Only fifteen years after Missouri was admitted into the Union, in the year 1836, a group of St. Louis physicians founded the first medical association in Missouri. That group was incorporated on January 25, 1837, as the Medical Society of Missouri.

Its president was Dr. Bernard G. Farrar, who was

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Benjamin A. Ruskin, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.
E. Madison Paine, M.D.
H. Gladys Spear, M.D.
Arthur J. Patek, M.D.

G. H. Schroeder, *Business Manager*

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



the first American physician and surgeon to locate permanently west of the Mississippi River. Throughout the vicissitudes of the years, following that early start, the idea of a state medical association persisted. As long ago as 1850 the Medical Association of the State of Missouri adopted a comprehensive code of ethics and a constitution, and directed its efforts to some of the problems of the medical profession in Missouri. These problems included the uniform recording of births and deaths; the inspection of drugs and medicines; the improvement of medical school standards and the setting up of qualifications for practice. It will thus be seen that in those early times the doctors of this state were giving attention to their responsibilities. Since those days, it can be said that the Missouri State Medical Association has materially advanced the public welfare. And so, the doctors of Missouri, throughout practically the entire history of our state, have demonstrated their awareness of the public nature of their profession.

This attitude and this record of your organization is of great interest to me as a public servant. For I have seen, during my service of more than twenty years in the public life of our state, a gradual and a growing recognition of the responsibility of the state itself in these matters. In the lifetime of many of us here there has developed the conviction that the people of the state have a moral right to good health and to protection from conditions that produce disease and epidemics. The health of our citizens has become a matter of public concern as never before. Health surveys, quarantines, mental hygiene, and other related phases in this field, have received attention. As a consequence there are pure food and drug acts which protect the citizen from the greedy and the unscrupulous, and other measures relating to the health and welfare of our citizens. I am sure you are all familiar with the public health work of the federal government in recent years; with its informal campaign against some of our more serious diseases; and with our own State Board of Health and its work. The membership of the State Board of Health, as you know, is made up of outstanding Missouri physicians. That department of our state government, as presently constituted, has been responsible in a broad field relating to public health, nursing, child hygiene, dental health, public health education and hospitalization. A division of laboratories, conducted by the State Board of Health, has so arranged its program that it is able to make almost any kind of diagnostic test for the physicians of Missouri. The services of this division are free except in regard to private water supplies or other commercial materials. However, private water supplies are examined free if a health officer takes the sample under the impression that the supply might be the source of some sanitary trouble. This division has been of great assistance in the examination of material received from private physicians. Such examinations are attempted upon any materials that have a public health significance such as poisons in food materials, adulterants and so on.

The Trachoma Hospital at Rolla is supervised by the State Board of Health and has been used for the treatment of early and late cases of trachoma among indigent people. Missouri is one of the few states in which trachoma is endemic.

The State Board of Health, in cooperation with the United States Public Health Service, operates the Midwestern Medical center here in St. Louis.

The Board operates the Waynesville General Hospital, which was erected to meet an emergency caused by placing a large military camp in that area. The hospital is exclusively for use by the civilian population on a minimum fee basis and is serving as a test to determine many questions related to hospitalization and medical care in rural areas.

The program of the State Board of Health follows the philosophy that health needs arise on the basis of local problems and can best be met and solved at the local level. Such a philosophy, therefore, means the development of a small, highly trained State Health Department which is primarily concerned with the development of programs on a state-wide basis and which are executed by the health department, city, county and district, in the community in which the need exists. In order to meet local needs, the first program of the state is to aid in the development of local health units and to supply these units technical assistance.

Among the major functions of the state program are activities directed toward the control of communicable disease; a program of immunization against diphtheria, smallpox and typhoid fever; maternal and child health; venereal disease suppression; tuberculosis control; malaria control; typhus fever prevention; food and milk problems, and industrial hygiene. These are some of the many activities respecting the health and welfare of our citizens that are of direct concern to the state.

In addition, the State of Missouri has long evidenced its concern with the physical health and well-being of our people through the operation of its eleemosynary institutions. The State Hospital for the mentally afflicted at Fulton; the State Hospital at St. Joseph for the treatment of mental disorders; the State Hospital at Nevada, which accepts only mental patients but treats the patient for his physical as well as for his mental condition; the State Hospital at Farmington; the School for the Feeble-Minded and Epileptic at Marshall; the Missouri State Sanatorium at Mount Vernon; and the Missouri Commission for the Blind are all indicative of the great concern of our state for the welfare of its citizens.

The Cancer Hospital is the first hospital west of the Mississippi River specifically designed for and dedicated to the state care and treatment of persons suffering from cancer and allied diseases. This hospital is the third state owned and operated cancer hospital in the entire country. Any indigent

Again Available!

Once again we can promise immediate delivery of these Mosby books. Popular demand had exhausted our stocks temporarily, but now, reprints just off the press make it possible for us to fill both new and back orders without delay. If your orders are already in our hands, shipment will be made shortly. If not, order today!

Send Us Your Order Now

Use Coupon Below

● **Crossens' DISEASES OF WOMEN**

—1944 Revised Printing of 9th Edition. 948 pages, 1127 illustrations, 45 color plates. $12.50

● **Kleiner's HUMAN BIOCHEMISTRY**

—1st Edition. 573 pages, 70 illustrations, 5 color plates. Price, $6.00

● **Sadler's MODERN PSYCHIATRY**

—1st Edition. 896 pages. $10.00

● **Main's SYNOPSIS OF PHYSIOLOGY**

—1st Edition. 341 pages, illustrated. $3.50

● **Pottenger's SYMPTOMS OF VISCERAL DISEASE**

—6th Edition. 442 pages, 87 illustrations, 10 color plates. $5.00

THE C. V. MOSBY COMPANY
3207 Washington Blvd.
St. Louis 3, Mo.

MJ 8/46

Gentlemen: Send me the following book(s) .....

....Attached is my check ....Charge my account.

Name .....

Address .....

person, a legal resident of Missouri, who has a cancerous or precancerous condition, may receive the benefits of the latest and most scientific methods of medical care in this special field free of charge.

As evidence of the state's regard for the physical health and wellbeing of its citizens, I would like to quote from Section 37 of Article 4 of the New Constitution of Missouri. That section creates a Department of Public Health and Welfare in the following words: "The health and general welfare of the people are matters of primary public concern; and to secure them the general assembly shall establish a department of public health and welfare, and may grant power with respect thereto to counties, cities or other political subdivisions of the state."

In accordance with this mandate of our new basic law, a new Department of Public Health and Welfare is being created by legislative action and in the new streamlined structure of our state government this department has been assigned as one of thirteen major departments. To this department, in accordance with the provisions of the new constitution, as Governor I have assigned the following Boards and Commissions:

The State Board of Health of Missouri.

State Social Security Commission.

Board of Managers—State Eleemosynary Institutions:

State Hospital No. 1, Fulton.

State Hospital No. 2, St. Joseph.

State Hospital No. 3, Nevada.

State Hospital No. 4, Farmington.

Missouri State Sanatorium, Mount Vernon.

Missouri State School No. 1, Marshall.

Missouri State School No. 2, Carrollton.

Confederate Soldiers' Home, Higginsville.

Board of Trustees, Federal Soldiers' Home.

Missouri Commission for the Blind (Board of Managers of the State Eleemosynary Institutions).

Cancer Commission of the State of Missouri.

In this new setup, the licensing of doctors is taken from the State Board of Health and placed under the Department of Education. These functions are to be performed under a new Division of Registration and Examination of the Department of Education. This was done for this reason: Under Section 12, Article IV of the New Constitution there is this provision: ". . . Unless discontinued all present or future boards, bureaus, commissions and other agencies of the state exercising administrative or executive authority shall be assigned by the Governor to the department to which their respective powers and duties are germane."

As the examining and licensing of doctors pertains to their educational qualifications, it was my opinion that the subject matter was germane to education; so, therefore, I assigned the registration, examination and licensing of doctors to the Division of Registration and Examination in the Department of Education; also all other registration and examining boards were assigned to the same division.

May I digress from my manuscript for just a moment to say that under this broad provision of the constitution it has been necessary to assign all of the different boards, bureaus, commissions and agencies of the state government into not to exceed fourteen departments of government. You may not know it, but there are now in Missouri over one hundred boards, bureaus and commissions in our state government. The intention of the new constitution was to consolidate, to streamline, if you please, our state government and to bring those different boards and bureaus into a few departments. For that reason these departments that I have mentioned have been included in the Department of Public Health and Welfare.

As a further illustration, our tax collecting agencies, as you probably know, are scattered throughout the state. Some departments collect the income tax, others collect the sales tax, and others the franchise tax, and others the property tax, and so on down the line; but under the new constitution and when the new laws have been enacted, all of those agencies will be placed under one department, a revenue department; the intention being to place our state government on a business-like, practical, economic basis, and I think when it's done, that we will all be better satisfied with our form of state government. There may be those who would say, for instance, that the examination of doctors should remain with the State Board of Health; but the trouble would be there are a number of other boards and bureaus in the state that have to be placed in another department, so the intention is to follow this provision of the constitution that says that all shall be placed in the department where the subject matter is germane. Someone asked me the other day about that, and I am bringing this to you for that reason, because we are trying to consolidate the different departments of government; and may I say to you, in making this assignment, instead of fourteen departments, I was able to assign all of those boards, bureaus, commissions and agencies of the state government into thirteen departments, and we have one that is not being used. I thought it was a good thing to do that because in the future we may have new boards, bureaus or commissions and it would be well to have a new department that would be for the new ones as they came on. For that reason they were all assigned, as I have said, in thirteen different departments.

Another provision in the new constitution which should be of special interest to the physicians practicing in rural Missouri is the following: Section 14, Article 6 of the new constitution provides: "By vote of a majority of the qualified electors voting thereon in each county affected, any contiguous counties, not exceeding ten, may join in performing any common function or service, including the purchase, construction and maintenance of hos-

pitals . . . . The county courts shall administer the delegated powers and allocate the costs among the counties. . . ."

In accordance with this new constitutional provision, the General Assembly of Missouri, by House Bill No. 738, which I approved this month, enacted legislation to make this constitutional provision effective. This Bill provides that two or more, but not exceeding ten contiguous counties may join in performing any common function or service including the purchasing, construction and maintenance of hospitals. I think that would be of interest to the physicians in rural Missouri.

Another bill, House Bill No. 280, which I have approved, will enable any county or group of counties subject to the provisions of the constitution of Missouri to establish, maintain, manage and operate a public county health center.

Another bill, House Bill 754, which I have approved, repealed and reenacted the law in regard to purchasing land, locating, building and maintaining county hospitals, and also provides for the issuance of bonds therefor in accordance with the general law governing the issuance of bonds by counties under the new constitution.

Another bill, House Bill 755, which I have approved, rewrote the law authorizing counties to purchase land and locate, build, equip and maintain thereon a tuberculosis hospital and dispensary; and also provides for the issuance of bonds therefor in accordance with the general law governing the issuance of bonds by counties under the new constitution.

I merely mention those bills and I do not want to go into detail, but I believe they are of interest to the practicing physicians in rural Missouri and they have all been enacted by reason of the provisions of the new constitution.

In my Inaugural Message to the General Assembly in January, 1945, in referring to the state eleemosynary institutions, I stated:

"Many problems arise from the operation of our eleemosynary institutions. . . . Overcrowding, limitation of vitally needed facilities, underpaid and inadequate staffs, all add to the problem confronting us in the administration of eleemosynary affairs. . . . I suggest that the General Assembly consider removing the statutory maximum on the salaries provided for physicians at these institutions. The extremely low salary schedules provided for physicians at these institutions do not permit us to furnish the type of care required in the most progressive hospitals." I am glad to report that a part of this recommendation has been carried out by the General Assembly.

Senate Bill No. 85, which I have approved, increases the salary of the superintendent of the Sanatorium at Mount Vernon from $3,600.00 per annum to not more than $6,000.00 per annum. Senate Bill No. 86, which I have approved, increases the salaries of the superintendents at all the eleemosynary institutions, including the superintendent of the Missouri State School at Marshall, from $3,600.00 per annum to not more than $6,000.00 per annum. Another Bill, Senate Bill No. 87, which I have approved, provides for appointing staff physicians for the various eleemosynary institutions. At the state hospitals at Fulton, St. Joseph, Nevada and Farmington, on the basis of one staff physician for each 150 patients or major fractional part thereof in an institution, instead of one for each 300 patients or major fractional part thereof; for the Missouri State School at Marshall one staff physician for each 150 patients or major fractional part thereof; for the State Sanatorium at Mount Vernon one staff physician for each 75 patients or major fractional part thereof in said institution. This bill also provides for an increase in the salary of staff physicians from a minimum of $2,000.00 to a maximum of not more than $4,000.00 per annum.

As stated in my Inaugural Message I think the statutory maximum on the salaries for physicians at these institutions should be removed and the question left to the Board of Managers in charge of the different institutions. However, the legislation which I have enumerated is an improvement over that in effect at the present time.

The enactment of this legislation indicates the great interest of the state in the matters affecting the medical profession and also in matters affecting the public health and welfare. I am sure that the interest of your profession and that of our citizenship, as a whole, in these matters is mutual. Your organization, since its inception, has been in the forefront of progress and has inaugurated and maintained the highest standards of ethics and of performance. Throughout the years the influence of this organization has been exerted toward the goal of improvement in the practice of medicine itself, and also in the promotion of the general health of the people as a whole. This has been done along practical, sound, reasonable lines. Let me urge you as citizens of our state, as practicing physicians in our Missouri communities, and as members of an organization which takes its name from our state —the Missouri State Medical Association—to continue that improvement and development which has meant so much in the past and can mean so much in the future.

ADDRESS OF THE PRESIDENT

A. S. BRISTOW, M.D.
PRINCETON, MO.

On behalf of the Missouri State Medical Association, I wish to express sincere thanks to St. Louis and the St. Louis Medical Society for their hospitality, efficiency and kindness.

I should like to deal briefly and for a few moments on the National Health Program. The Missouri State Medical Association is dedicated to the task of bringing better medical and surgical care

Presented at the Annual Banquet of the Missouri State Medical Association, March 25, 1946, St. Louis.

Dependable Nourishment



The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant *—from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

to all the people. The Association is firmly convinced that this goal cannot be reached through the federalization of the medical profession as embodied in Senate Bill 1606 which is now pending in the Committee on Education and Labor of the Senate of the United States. Should compulsory sickness insurance come to pass and the private practice of medicine be shackled as is proposed in this Senate bill, the pattern of socialism in the United States will be further completed.

No one in medicine and its allied field will escape the yoke, for the proposed health care will comprise both general practitioner and specialist, out and in patient care, including domiciliary visiting, dental care, nursing care at homes, sanatoria and in hospitals, care of midwives, maintenance in hospitals, nursing homes, sanatoria, pharmaceutical and other medical or surgical supplies, including artificial limbs, and the care furnished by such other professions as may at any time be recognized legally as belonging to the allied professions. There will be no market except the government.

Not a pleasant picture for any of us. We have seen much in our time. We have seen humanity lose much. We have seen a retreat of the spirit. We have witnessed a return at times to barbarism. We have seen the golden thread which binds man to God come perilously near breaking under the strain of an evil weight, the weight of moral disintegration. Our curve certainly is downward.

Through history, the state has and probably always will attempt to gain more power. When this occurs, that power becomes an end in itself. Once men accept the falsehood that there is no absolute except power that fixed standard have become only relative, then Hitler, Mussolini and Hirohito were right.

In America the recently developed defeatist attitudes toward the great moral imperatives is a reflection of our weakness in this struggle for freedom. The principles for which we fought this other war are based on moral obligations. But Congress and the President, in what passes at the moment for wisdom, create another bureau, a board, a commission, an authority to deal with some small problem of social dislocation, economic abuse or authority, and the next thing the country knows, this new agency is hurling executive orders and administrative decrees to the four winds.

As long as we, the American people, are dominated by the defeatism which demands the aid of government witch doctors—the constant injection into the veins of society of hastily brewed economic, social and political serums of unknown or questionable potency and efficiency, we will never again stand on our feet as Americans and carry individually the proper portion of community responsibility which is ours. As long as we permit the use of this synthetic government action as a substitute for individual responsibility, we shall never be free from this trend toward collectivism.



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASSN

In the last ten years many health insurance bills have been introduced to state legislatures and into the United States Congress. Twenty-seven were introduced in New York State alone, while in Alabama, Arkansas, Georgia and Mississippi, where the need for better distribution of medical care is much more acute, there were no plans adopted or even suggested. Very evidently, then, there are political and organizational implications in this fact.

Organized medicine is seeking a solution to this problem. It is generally agreed that the distribution of medical care is in a stage of acute suspension. Public opinion is quite fluent on the matter. It will swing one way or the other within the next two years. Perhaps many of you, as doctors, find it difficult to believe that we must add to the task of caring for the ill and stricken the challenging responsibility of social and economic leadership in the distribution of medical care and services, but this is our call.

Three meetings of signal importance were held in Chicago in December 1945: (1) a two-day session of the Council on Medical Service and Public Relations of the American Medical Association, (2) Conference of Presidents and Officers of State Medical Societies.

May I digress here to say that in the national call for presidents of state medical societies, nineteen states of this union failed to be represented; rather an appalling thing.

The third important meeting was a three-day meeting of the House of Delegates of the American Medical Association. With all working agencies, we are proceeding as rapidly as possible with the development of a specific national health program with nationwide organization of locally administered prepayment plans, sponsored by medical societies.

This is our answer to the socialized medical program. The big question is how long will it take to put our plan into operation? I am now firmly convinced that whoever gets there first, the Government or organized medicine—in other words, the guy that gets there firstest with the mostest is the one that will be accepted.

Then, as members of organized medicine, we have an answer. We feel that it is an answer. Are you, as individual members of organized medicine, going to accept that challenge? Are you going to accept that responsibility which is ours?

We learned much in the Presidents' meeting in Chicago. Has it occurred to you as individuals why the patient who may seek you and you may deliver the goods in a manner that the majority of physicians do deliver has rather a high regard for his individual doctor? Yet, when you speak of organized medicine it is almost like waving the red flag before the infuriated bull. Why? Organized medicine has largely been in the past obstructionists. We have not come out, up until the present time, with a program of solution.

Now, we are giving something to the people they may understand. It is up to you people to assume that responsibility. The call is upon medicine and not upon the government. If we might forestall that which is—call it what you may—socialized medicine, federalized medicine, communistic medicine, collectivistic medicine, socialistic medicine, the definitions do not vary much, the implications are the same. Then we have the answer—those agencies which have been created by, sponsored, activated by medicine, and which have been in operation some time, our Blue Cross, our Missouri Medical Service, Surgical Care, Incorporated. Perhaps they will become a part of the national plan. Our premise, our ideas of such organizations do not differ greatly from those which have been put forward by our national organization, the American Medical Association. Perhaps there are some minor differences which may be ironed out easily.

Then, have you contacted your Congressmen? Have you contacted your Senators? If not, when you return to your homes, individually and as members of a component society, part of this Association, do not write your Congressman and just say, "I am against it," but offer to him that which organized medicine has come forth with as the answer to your problem, the problem of better distribution, in which we all agree.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 8. August, 1946

THE SIGNING OUT OF TUBERCULOUS PATIENTS

When the private physician makes a diagnosis of tuberculosis and succeeds in getting a patient under sanatorium care, he is apt to feel that his job is done. If that patient leaves the sanatorium prematurely, his physician will be handicapped in his subsequent efforts by the failure of this first hospital experience. A knowledge of some of the factors that lead tuberculous patients to leave hospitals against medical advice should help physicians to prepare patients for accepting and completing hospital care.

Those who are interested in helping a patient to use the medical care necessary for recovery and to accept a possible physical limitation, find challenging problems in work with the tuberculous. The importance of this may be realized when hospitals in different parts of the country report that from 22 to 65 per cent of their patients leave "At Own Risk (A.O.R.)."

The patients who refuse all treatment have not been considered. The focus has been on patients who have evinced a desire to get well but who

during the course of treatment attempted to terminate their recovery process. All hospital personnel, including the social worker, must accept "It is never the body only which is out of health, but always the complete being." Often the reasons for leaving the hospital are obscure and great skill is needed to help the patient to be realistic and to direct himself toward the goal of complete recovery.

The treatment and hospitalization of patients with tuberculosis involves months or years of restricted activity. A young athletic boy, suddenly faced with tuberculosis, may revolt at accepting this state. Since the tubercle bacilli carry on their destructive work insidiously, the patient, after he has regained some strength, will insist that his cure is completed. This view is maintained despite the contrary evidence of X-rays and sputum reports. Perhaps the fear of the disease is so great as to cause the patient to reject its reality.

The older man and woman, accustomed to years of labor in factory and home, may also find it difficult to accept the new role of inactivity and dependency. Experience has not fitted them to fill the passing empty hours. The thought of lying quietly in bed while the world hurries on is untenable and they are tortured by the desire to be back among the working multitudes.

This boredom is more readily conquered by patients accustomed to study or reading, or those who are fortunate enough to have a hobby. Hospitalization is a difficult experience for the majority, but it can be a constructive one. Rarely does a patient who has found activities that lead to growth and development, sign out against advice. There is also a distinct difference between those patients who have made their adjustment and those who have succumbed to the sheltered life of the hospital and have regressed to an infantile, dependent level.

There does not appear to be any constant point at which a patient may feel that the hospital is no longer bearable. Even when individuals may be apparently adjusted to the hospital routine, the inactivity may lead to cumulative effects until a breaking point is reached. A little supportive treatment at this time will often tide the patient over the rough spot.

An individual entering a hospital brings with him the sum total of his life experiences. He has certain ties, certain obligations, and these remain though they are altered by the new experience. Early contact with the patient and his family can give clues to the patient's motivations and the part the family will play. The marital strengths, the interfamily ties and strains, the relationships in a changing setting should all be weighed and evaluated with the patient. The patient must, if possible, be spared the worry and anxiety of the family. This cannot be done by simply hiding or ignoring real problems. If the family is aware of this, they can show the patient their strengths in meeting problems and assure him that they can keep their balance.

The social worker is often faced with a recently admitted patient who demands to leave the hospital with or without the doctor's permission. An interview usually begins with the patient demanding, "How can I remain here while my family starves?" The social worker can be of invaluable aid in directing the family to sources of help and thus make it possible for the patient to accept his hospital stay knowing that his family will not starve or go homeless.

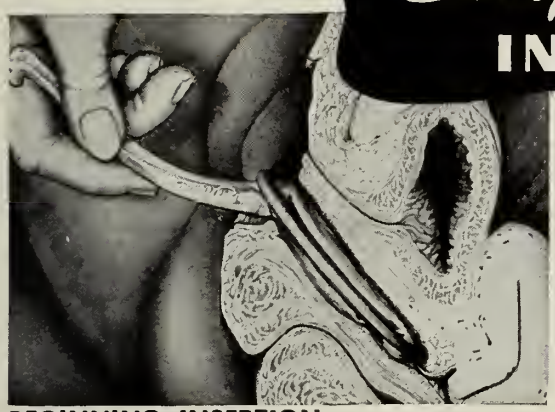
Life in a hospital is complex. A patient is faced with the need to adjust to his companions, the doctors, nurses, and other personnel. He has to give up practically all his privacy, both physical and mental. There are new ideas to be adjusted to in this microcosm of all nations and races. It is not difficult for friction to arise between the patient and a particular person or routine. Personalities may clash and the sick person may feel that the only solution lies in leaving the hospital. Sometimes the patient does not indicate the real reason for signing out but gives the usual statement that he "can do just as well at home." Other patients are quite verbose regarding the sources of annoyance.

All members of the hospital team can play very important parts in helping the patient adjust, not only to his illness but to the hospital life. A healthy adjustment in the hospital implies a psychological awareness and acceptance of the illness. When the acceptance has not been achieved, the patient rejects the hospital as a symbol of the disease. In the adjustment of the patient to the hospital one factor that might be given special attention is the food. Tuberculous patients are very conscious of the role of food in their cure and of the variations in their weight. This is one of the chief topics of conversation. One director of a sanatorium when asked how he kept down his A.O.R. discharges to a surprisingly low figure replied that he gave the patients the type of food they would get in their own homes.

An analysis (such as this abstract) cannot give all the reasons why patients interrupt the treatment process. The individuality of every situation is marked, and therein lies the challenge. The problem is a big one. There has been a constant war agains tuberculosis. In its earlier stages this fight was on a mechanical level of cleaning up slums, taking mass X-rays, or providing the proper type of hospital care. But now we have come to realize that we are dealing with human beings and the control of the disease will come only when the sick person is prepared to participate.

The Signing Out of Tuberculous Patients, Jean Berman and Leo H. Berman, The Family, April, 1944.

Simplicity IN USE

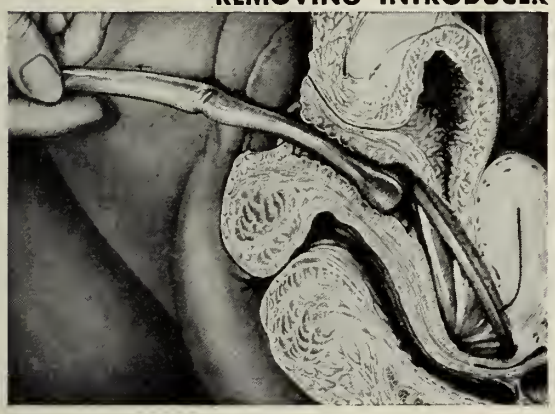


BEGINNING INSERTION

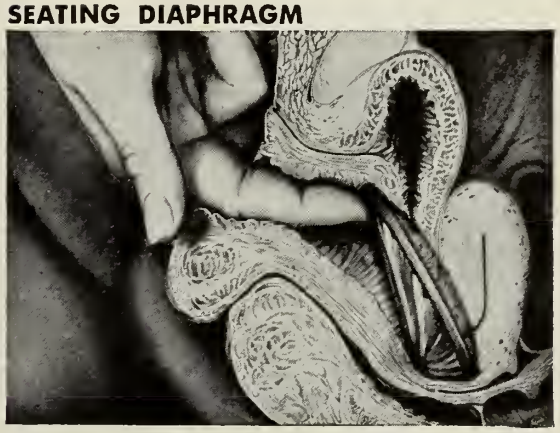


COMPLETING INSERTION

REMOVING INTRODUCER



SEATING DIAPHRAGM



These illustrations, showing the simplicity of use of "RAMSES" Gynecological Products, are reproduced from the booklet *Instructions for Patients*. For the physician's convenience, a supply of these booklets is available, upon request, for distribution to patients.

Determination of indications for control of conception, and advice on the proper method of providing protection, are the exclusive province of the physician. "RAMSES"* Gynecological Products are designed for use under the guidance of the physician only.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

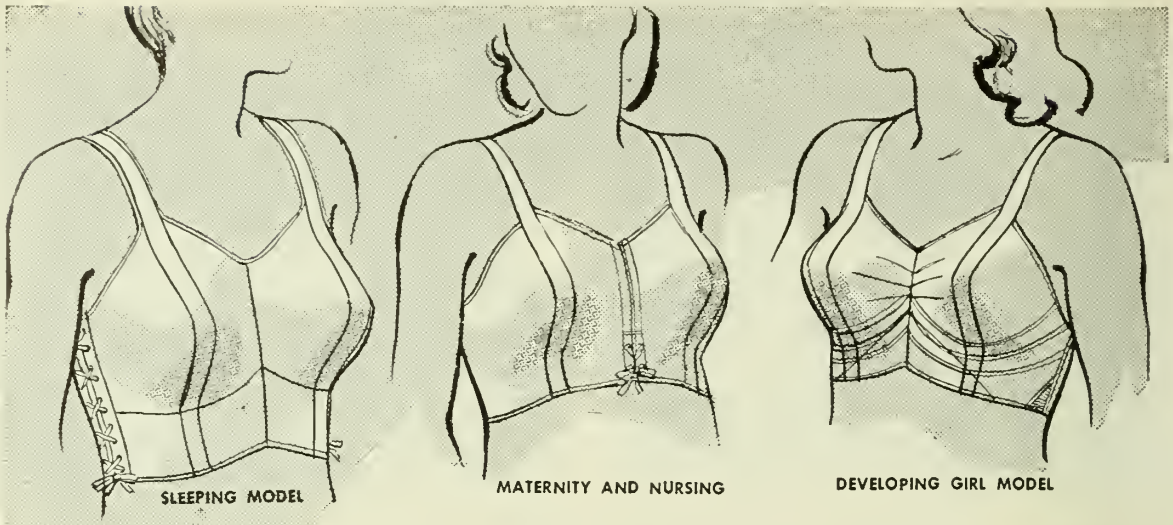
Ramses FLEXIBLE CUSHIONED DIAPHRAGM

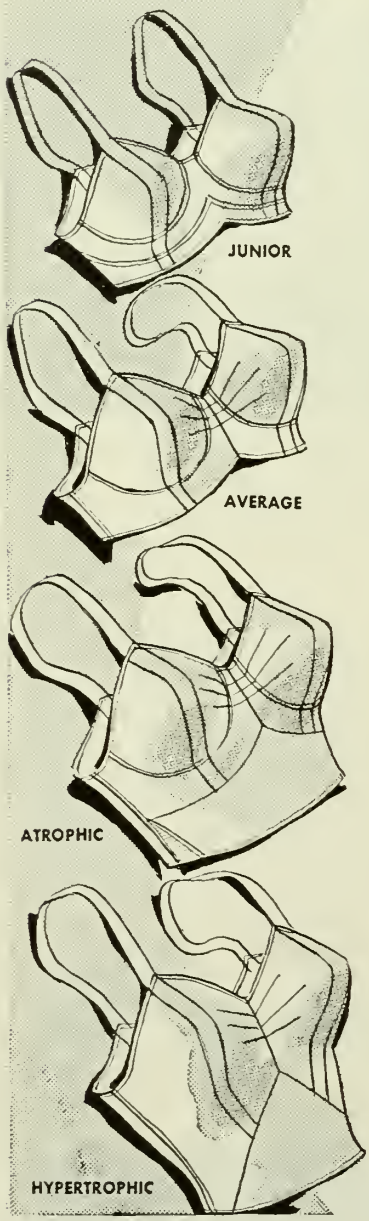
ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

A MARK OF Ramses DEPENDABILITY

gynecological division
JULIUS SCHMID, INC.

Quality First Since 1883
423 West 55 Street • New York 19, N. Y.





Lov-é **CORRECTIVE** *Brassieres*

IN MORE THAN 500 SIZE VARIATIONS

CUSTOM-FITTED TO THE INDIVIDUAL IN EXACT ACCORDANCE WITH THE PHYSICIAN'S INSTRUCTIONS, THESE SUPPORTS ARE THE MOST HIGHLY SPECIALIZED AVAILABLE AND A DEFINITE AID TO TREATMENT.

SPECIAL MODELS PROVIDE HYGENIC REMEDIAL SUPPORT FOR SPECIFIC BREAST CONDITIONS. ALSO AVAILABLE: AMPUTATION MODELS, ARTIFICIAL BREASTS, MUSCLE PADS, HOSPITAL BINDERS, MATERNITY GARTER SUPPORTS.

ALL LOV-E' PRODUCTS ARE EXPERTLY FITTED BY COMPANY-TRAINED LOV-E' BRASSIERE TECHNICIANS. LOV-E' MODELS HAVE BEEN DEVELOPED DURING 14 YEARS OF MEETING THE REQUIREMENTS OF THE MEDICAL PROFESSION. MADE BY LOV-E' BRASSIERE COMPANY, HOLLYWOOD, CALIFORNIA.

LOV-E SECTION CORSET DEPARTMENT

FAMOUS-BARR CO., ST. LOUIS

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

JULY, 1946

EDITORIALS

AMERICAN MEDICAL ASSOCIATION ANNUAL SESSION

The Ninety-Fifth Annual Session of the American Medical Association convened in San Francisco, July 1 to 5. More than 7,600 physicians registered for the meeting. It was the largest enrollment for several years.

Officers elected were: President-Elect, Olin West, M.D., Chicago, who resigned as Secretary and General Manager a few months ago; Vice President, E. L. Bortz, M.D., Philadelphia; Secretary, George F. Lull, M.D., Chicago; Treasurer, Joseph J. Moore, M.D., Chicago; Speaker of the House, R. W. Fouts, M.D., Omaha; Vice Speaker, F. F. Borzell, M.D., Philadelphia; Member of the Board of Trustees, C. W. Roberts, M.D., Atlanta.

The 1947 meeting will take place in Atlantic City, June 9, 1947. This will mark the one hundredth anniversary of the founding of the American Medical Association. A special centennial program is being arranged and speakers will be invited from many foreign countries.

Two Missouri delegates were appointed to serve on important reference committees: Dr. Robert Schlueter, St. Louis, on the Reference Committee on Medical Education, and Dr. Arthur R. McComas, Sturgeon, on the Reference Committee on Reports of the Board of Trustees and Secretaries. Both of these committees received many resolutions referred by the Speaker.

Among the many resolutions adopted by the House of Delegates, perhaps the most important was the complete endorsement of prepayment medical care plans. All states were urged to get plans into operation immediately. The Council on Medical Service has set up a bureau to assist any state or county medical society in inaugurating a prepayment plan or plans and it was recommended also that this Council be authorized to loan money without interest to any state or county medical society which needs funds to organize a prepayment plan.

A change in the by-laws was made to permit the Association to meet more than once each year. As a result a meeting of the House of Delegates will take place in Chicago, probably in December, in addition to the Atlantic City meeting.

Another important development was the recommendation that a Department of Public Relations under the direction of a trained public relations consultant be created immediately in the office of the American Medical Association. All matters relating to the subject of public relations such as speeches, radio talks, publicity of all kinds would clear through this department. Details are to be worked out by a special committee which will report to the House of Delegates at the coming meeting in Chicago in December.

Resolutions were adopted condemning the Wagner-Murray-Dingell bill, S. 1606, and the Pepper Maternal and Child Welfare Bill, S. 1318.

All who attended the meeting were impressed with the hospitality of the hosts, the California Medical Association and the San Francisco County Medical Society.

MEDICAL SERVICE PLANS

Michigan Medical Service now covers 877,000 people, the largest number served by any voluntary medical care plan conducted by physicians. In the July issue of THE JOURNAL, in the editorial concerning the testimony of Dr. Lowell S. Goin on S. 1606, it was stated in error that the California Physicians Service, of which Dr. Goin is president, was the largest such plan.

NEWS NOTES

Dr. Edward H. Skinner, Kansas City, was elected president of the American College of Radiology at the annual meeting in San Francisco on June 29. Dr. Edwin C. Ernst, St. Louis, was elected vice president.

Dr. J. W. Thompson, St. Louis, was elected a member of the Board of Trustees of Group Hospital Service of St. Louis at the annual meeting held June 25. Drs. Oliver Abel, Jr., Edwin J. Schisler and E. V. Mastin, St. Louis, were elected to the corporate board.

Dr. H. L. Mantz, Kansas City, was elected representative-director from Missouri to the National Tuberculosis Association at an annual meeting June 10 to 13 in Buffalo. Dr. Mantz was elected to the council of the American Trudeau Society which met at the same time in Buffalo.

Dr. Wendell Scott, St. Louis, and Commodore Alphonse McMahon, Bethesda, Maryland, have been named to a sixteen member Reserve Consultant Board to the Bureau of Medicine and Surgery by Vice Admiral Ross T. McIntire, Surgeon General of the Navy. The board will assist

in the work of affording Naval Medical Officers the opportunity to train in medical specialties and also will aid in establishing the residency training program in nine United States Naval hospitals.

Mr. Will C. Braun, Chicago, Business Manager of the American Medical Association since 1924 and recently retired, was tendered a testimonial dinner and reception at San Francisco on July 3 in the Colonial Ball Room of the St. Francis Hotel. The dinner was sponsored by "Old Friends of Will Braun, Uninc."

Dr. Daniel L. Sexton, St. Louis, has been appointed a member of the council of the Southern Medical Association from Missouri for a term of five years beginning at the close of the annual meeting to be held in Miami, November 4 through 7, 1946. Dr. Sexton succeeds Dr. Neil S. Moore, St. Louis, who has served the constitutional limit and is not eligible for reappointment.

MISCELLANY

ADDITIONAL PHYSICIANS RETURNED FROM MILITARY SERVICE

Budke, Harold A., M.D., St. Louis.
Cron, Heinz E., M.D., San Francisco, Calif.
de la Torre, John H., M.D., Lemay.
Flynn, Joseph E., M.D., St. Louis.
Kuenkel, Victor H., M.D., St. Louis.
McNamee, William F., M.D., St. Louis.
Meyer, Curtis A., M.D., St. Louis.
Mountjoy, Philip S., M.D., St. Louis.
Veatch, Charles A., M.D., St. Louis.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for August and September, to which all members are invited, beginning at 1:00 p. m. each clinic, follows:

August 2: Gynecologic and Genitourinary.
August 7: Miscellaneous.
August 9: Breast.
August 14: Skin.
August 16: Cervix.
August 21: Gastrointestinal.
August 23: Head and Neck.
August 28: Skin.
August 30: Bone and Lymphomas.
September 4: Miscellaneous.
September 6: Gynecologic and Genitourinary.
September 11: Skin.
September 13: Breast.
September 18: Gastrointestinal.
September 20: Cervix.
September 25: Skin.
September 27: Head and Neck.



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

ORGANIZATION ACTIVITIES

CONFERENCE OF PRESIDENTS AND OFFICERS OF STATE MEDICAL ASSOCIATIONS

The second annual conference of Presidents and Officers of State Medical Associations was held Sunday, June 30, in San Francisco, the day preceding the annual session of the American Medical Association. The meeting was called to order by the president, Dr. Andrew S. Brunk, Detroit, Michigan. More than one hundred members were present, representing thirty-seven state medical associations. Routine business was first taken care of including the adoption of three resolutions to be presented to the House of Delegates the following day. These resolutions were: first, to urge that *The Journal of the American Medical Association* publish in as far as possible the programs of the scientific meetings held by certain specialties during the few days preceding the annual session; second, to recommend to the House of Delegates that each state medical association should have a full time headquarters office, and third, to recommend to the House of Delegates that it would seem wise to have a revolving loan fund to help state medical associations who are having difficulty in financing the preliminary steps of the state sponsored medical service plans.

The first paper on the program was by Dr. Julian P. Price, Florence, South Carolina, Secretary-Editor of the South Carolina State Medical Association. He discussed the question, "Why Have a Conference of Presidents?" He analyzed the value that could be derived from an organization of state officers. He felt that this group could analyze the strength and weaknesses of present day medical organizations and that the conference of officers could have a specific program which could supplement and support the actions of the House of Delegates. He analyzed the ages of the presidents of the state medical associations as compared to the ages of the members of the House of Delegates. The average age of presidents was 57 years. The average age of the delegates was 62½ years. He suggested that it might be wise to limit the length of time a delegate could hold office and suggested that the length of time be ten years. He also suggested that this organization of presidents and other officers of state medical associations might profit by having a central office with an experienced executive secretary to help coordinate the activities of all state medical associations. It would seem best that any such office should be an integral part of the American Medical Association.

Dr. Carl E. Anderson, San Francisco, Secretary of the San Francisco Physicians' Forum, spoke on "Nationwide Sickness Insurance—How and When." He described the work of the San Francisco Forum. He discussed with an open mind such problems as the poor distribution of physicians, the need for public health education, the problem of the care of the medically indigent and federal legislative problems and numerous other related subjects. He particularly emphasized the need for freedom of choice under a nationwide sickness insurance.

Dr. Lowell S. Goin, Los Angeles, President of the American College of Radiology, the Radiological Society of North America and the California Physicians' Service, gave a forceful talk on "The Public Health, the Politician and the Doctor." He described the problems of medical insurance and medical care and emphasized that the only satisfactory answer was for physicians to do it themselves with a health care plan. He granted that it would take time and voluntary health plans to answer the problem. He stated that the fact that 71,000,000 Americans have life insurance policies was proof that the majority of Americans will buy voluntary medical and hospital service plans when they are



UNCERTAIN SUCCESS in the treatment of pernicious anemia is due to many unpredictable factors.

One element of certainty is added to your treatment when the Solution of Liver prescribed never varies from rigid standards.

Purified Solution of Liver, Smith-Dorsey, is unfailingly uniform in purity and potency. It has earned and maintained the confidence of thousands of physicians.

Purified Solution of Liver, Smith-Dorsey, will help to protect your treatment—to assure you of good results where the medication is the controlling factor.

PURIFIED SOLUTION OF Liver

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

SMITH-DORSEY

Supplied in the following dosage forms: 1 cc. ampoules and 10 cc. and 30 cc. ampoule vials, each containing 10 U.S.P. Injectable Units per cc.

THE SMITH-DORSEY COMPANY
LINCOLN • NEBRASKA
Manufacturers of Pharmaceuticals to the Medical Profession Since 1908

universally available and when the people themselves are educated to their value.

The last medical speaker was Dr. Edward J. McCormick, Toledo, Chairman of the Council on Medical Service and Public Relations of the American Medical Association, who spoke on "Saving Lives and Saving Democracy." Dr. McCormick summarized the splendid work of the Council on Medical Service during the last three years and gave pertinent details regarding the different programs adopted. He stated that there were now only seven states that did not have either a working medical service plan or had voted for such plans which were now in the course of development. He stated that the Council hoped that every state would have plans either in the operative or in the developmental stage by the end of 1946. He said that the Council is preparing speeches on the different aspects of the economic and the social problems of medicine which any physician in the country can use. He briefly described the new Taft health bill, recently introduced in the Senate, and said the Council was endeavoring to crystallize as rapidly as possible the attitude of the medical profession toward this bill. He vigorously supported the aims and purposes of this bill although he granted that some minor changes might be advisable. He also discussed the serious need for better public relations for the American Medical Association and suggested that it would be wise to remove the activity of public relations from the Council on Medical Service and have a new, vigorous and forward looking department of public relations in the American Medical Association. It was his opinion that the Council on Medical Service should approve all medical service plans developed under the sponsorship of state medical associations if the services came up to the proper standard.

A discussion period followed, led by Dr. William R. Molony, Los Angeles, Vice President of the American Medical Association. He introduced Mr. Upton Close, nationally known radio commentator, who stated that the Wagner bill was the first wedge for complete state socialism. He stated that this bill was not originated by medical men or written in consultation with a representative of medical men. He admitted, however, that there was a small per cent of medical men who are willing to approve of a state socialized medical program. He said that these men, most of them members of the American Medical Association, are like a Trojan horse in our midst. He made and emphasized a profound truth when he stated that the public loves the individual physicians of this country but that the public does not recognize them as a part of the medical profession and does not like organized medical bodies. He said this was the result of bad public relations and that the medical profession must give the public the facts of scientific medicine and the facts of plans to meet the economic problems of medicine. He stated that the public can be sold on this program, which is the best program for the people. He said that the average physician should be a better business man and should seek a return on his capital investment which he estimated at $40,000, counting the cost of medical education with its years of postgraduate study and the money which could have been earned during these same years in some productive capacity.

Altogether this meeting provided a great fund of valuable information and presented many problems which need the deep thought and considerate action of every physician in this country. It was a valuable afternoon and when the meeting was adjourned under pressure because of the late hour, it was felt that not a moment had been wasted and it was regrettable that every physician in the United States could not have had the opportunity to be there.

Howard B. Goodrich, M.D., President.

SOCIETY PROCEEDINGS

FOURTH COUNCILOR DISTRICT

O. W. KOCH, ST. LOUIS, COUNCILOR

Lincoln, St. Charles and Warren Counties

Physicians of Lincoln, St. Charles and Warren counties held a dinner meeting on June 20 at the Southern Air in Wentzville. Thirty members and guests attended the meeting including Dr. O. W. Koch, St. Louis, Councilor of the Fourth Councilor District.

Dr. Howard B. Goodrich, Hannibal, President of the Missouri State Medical Association, addressed the session on "The Program of the Missouri State Medical Association."

Dr. E. Lee Dorsett, St. Louis, gave an address on "Complications Arising In and Following the Third Stage of Labor."

A general discussion of organization work followed the program. It was decided to hold joint meetings of the three counties periodically at which scientific programs would be presented. Dr. Joseph C. Creech, Troy, was selected chairman in charge of the next scientific meeting.

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

Phelps-Crawford and Dent Counties Medical Societies

A combined meeting of the Phelps-Crawford and the Dent County Medical Societies was held at the Edwin Long Hotel, Rolla, on May 23, at 7:00 p. m.

Those present were Drs. Harry H. Davis, R. F. Knowles, A. A. Drake, M. K. Underwood, E. E. Feind, F. A. Elder, A. S. McFarland, Rolla; R. E. Breuer, Newburg; William H. Breuer, St. James; G. E. Joseph, Salem; L. L. Henson, Bunker; E. C. Bohrer, West Plains, and Mr. Raymond McIntyre, St. Louis.

After an excellent dinner a discussion of the advisability of the hyphenation of the Dent, Phelps-Crawford and the Pulaski County Medical societies was discussed. Mr. McIntyre and Dr. Bohrer explained the reasons and desirability for combining the societies into one active functioning unit. This was discussed by practically all members present.

A temporary organization was formed to promote this union and the following temporary officers were selected: Dr. G. E. Joseph, Salem, Chairman; Dr. R. E. Breuer, Newburg, Secretary.

Plans were made for a meeting June 28.

Meeting of June 28

A meeting of the Phelps-Crawford, Pulaski and Dent County Medical Societies was held in Rolla at the Pierce Pennant Tavern at 6:00 p. m. on June 28.

Those present were Drs. A. A. Drake, Harry H. Davis, R. F. Knowles, M. K. Underwood, E. E. Feind, F. A. Elder, J. E. Smith, A. S. McFarland, Rolla; C. Miller, William R. Lytle, Waynesville; G. E. Joseph, M. M. Hart, Salem; H. L. Reed, Leslie Randall, Licking; William H. Breuer, E. A. Stricker, St. James; R. E. Breuer, Newburg; L. L. Henson, Bunker; C. E. Burford, Drew Luten, St. Louis; E. C. Bohrer, West Plains, and Mr. Raymond McIntyre, St. Louis.

Following the dinner a formal organization of the Dent and Phelps-Crawford County Medical Societies into a hypenated unit was completed. Pulaski County representatives were present but since none had been present at the first meeting in May, they were given extended time to determine the wishes of their members.

Dr. C. E. Burford, St. Louis, presented a talk on "The Prostate Gland."

Dr. Drew Luten, St. Louis, spoke on "Some Phases of Angina and Coronary Heart Disease."

Both papers were unusually interesting and most

capably given to a highly appreciative audience.

E. C. Bohrer, M.D., Councilor.

South Central Counties Medical Society

The South Central Counties Medical Society met at the Elliott Hotel, Mountain Grove, June 21.

Those present were Drs. J. R. Mott, Hartville; J. A. Fuson, Mansfield; R. A. Ryan, R. W. Denney, A. C. Ames, Mountain Grove; Garrett Hogg, Cabool; R. T. Harsh, Houston; Leslie Randall, H. L. Reed, Licking; C. T. Callihan, Willow Springs; E. C. Bohrer, Rollin H. Smith, West Plains; E. H. Rainwater, Springfield.

The meeting was called to order by the president, Dr. J. R. Mott, and the minutes of the last meeting were read and approved and the financial statement presented.

Dr. E. H. Rainwater, Springfield, gave a talk on "Foreign Bodies in the Air Passage" and showed a chicken bone that had been removed from the lower lung with roentgen rays which had failed to show the bone but did show the results. A vote of thanks was given.

Dr. Ryan made application for his son, Dr. R. A. Ryan, Jr., and Dr. Ryan was elected to membership unanimously.

The meeting adjourned to meet in Cabool on July 19.

A. C. Ames, M.D., Secretary.

TENTH COUNCILOR DISTRICT

PAUL BALDWIN, KENNETT, COUNCILOR

New Madrid County Medical Society

The New Madrid County Medical Society met in Portageville, June 13, at 7:30 p. m.

The following were present: Drs. B. E. Ellis, F. G. Hopkins, Gideon; Claude McRaven, E. M. Popp, Marston; E. E. Jones, Lilbourn; B. J. Allenstein, L. J. Smith, New Madrid; S. M. Sarno, Morehouse; H. W. Carter, P. C. Mullen, J. J. Killion, Portageville; Paul Baldwin, Kennett, Councilor.

The following officers were elected: President, Dr. B. E. Ellis, Gideon; vice president, Dr. Claude McRaven, Marston; secretary and treasurer, Dr. J. J. Killion, Portageville; board of censors for one year term, Dr. E. E. Jones, Lilbourn.

Dr. Paul Baldwin, Kennett, gave an interesting report of the Annual Session of the Missouri State Medical Association held in St. Louis, March 24 to 26.

A picnic for the members of the Society and their wives was discussed and the president was instructed to appoint a committee to plan the time and place.

The meeting adjourned at 9:00 p. m. with the next regular meeting scheduled to be held in September.

John J. Killion, M.D., Secretary.

St. Francois-Iron-Madison-Washington-Reynolds Counties Medical Society

The St. Francois-Iron-Madison-Washington-Reynolds Counties Medical Society met at the State Hospital, Farmington, on June 27.

The following were present: Drs. Daily Appleberry, Rivermines; Harry Roebber, M. T. Haw, Jr., Van W. Taylor, Bonne Terre; S. A. Lansafame, James Mulkey, Emmett F. Hoctor, Frank J. Nichols, Farmington; J. P. Yeargain, Irondale; Harry Barron, M. B. Barber, Fredericktown; C. H. Appleberry, Flat River; H. C. Gaebe, Desloge; Robert Bartlett, St. Louis, and Mr. Raymond McIntyre, St. Louis.

Dr. Robert Bartlett, St. Louis, gave an interesting and instructive talk on "The Diagnosis and Treatment of Pain in the Right Upper Abdomen."

Mr. Raymond McIntyre, Field Secretary of the Missouri State Medical Association, gave a comprehensive talk explaining some of the measures being adopted by the Association for the extension of medical care. He stressed the importance of full participation of all physicians in the Missouri Medical Service plan.

Van W. Taylor, M.D., Secretary.

Advertisement



From where I sit
by Joe Marsh

The Truth about that Explosion

For weeks Homer Bentley has tried to uproot that big stump in his hayfield . . . with team and tractor. Finally he succeeds—breaks a score of windows round about, and frightens the neighbors half to death!

"All I used," apologizes Homer, "was a couple of small sticks of dynamite, like you should."

"That was no two small sticks of dynamite," Dr. Walters says severely —and it finally comes out that Homer got so cussed mad at that everlasting stump, he planted a charge of TNT beneath its roots.

Reminds you of all the excuses human beings use to cover up bad judgment. Like the "two-beer alibi." When somebody gets into trouble, and blames it on "a couple of beers," you can be mighty sure they are covering up the truth. From where I sit, sensible folks realize that a moderate beverage like beer is a better way of keeping out of trouble, than getting into it.

Joe Marsh

Copyright, 1946, United States Brewers Foundation

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

MISCELLANEOUS ANNOUNCEMENTS

PHYSICIAN AND SURGEON WANTED: Good location for a physician and surgeon in Harrisonville, Mo. New 30 bed medical hospital established. Aim to meet the requirements of the American College of Surgeons. Address Mr. Ray L. Shubert, President, Memorial Hospital, Harrisonville, Mo.

OPPORTUNITY in locality without medical service. Death of physician owning drug store and doing general practice, x-ray, and prescription work leaves town within ten miles of hospital without physician or medical service within ten miles. Box 126, Neck City, Missouri.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.

For Low Back Pain
A Spencer Spinal Support
With Outside Pelvic Binder Aids Treatment



Spencer Spinal Support with outside pelvic binder designed especially for this man. Fastens in front by straps of strong surgical webbing which adjust separately so that desired tension at any point is possible. Also designed with lacer in back, when prescribed.

When you prescribe outside pelvic binder on a Spencer Spinal Support, the benefits the patient derives from having the support individually designed are enhanced. The outside binder, pulling against the vertical steels which have been molded to give pressure at points designated by doctor, holds entire length of steels more firmly to body.

Spencer designers create spinal supports varying from flexibility to rigidity, as prescribed. Each Spencer Support is individually designed, cut and made to meet each patient's needs.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop," or write direct to us.

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxon.

May We Send You Booklet?

Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

Name ..... M.D.

Street .....

City & State V-8-46

SPENCER *INDIVIDUALLY DESIGNED* **SUPPORTS**
Reg. U.S. Pat. Off.
For Abdomen, Back and Breasts

THE TABLET METHOD FOR DETECTING URINE-SUGAR
CLINITEST

offers these advantages to physician, laboratory technician, patient:

ELIMINATES
- Use of flame
- Bulky apparatus
- Measuring of reagents

PROVIDES
- Simplicity
- Speed
- Convenience of technic



Simply drop one Clinitest Tablet into test tube containing proper amount of diluted urine. Allow time for reaction, compare with color scale.



FOR OFFICE USE Clinitest Laboratory Outfit (No. 2108) Includes—Tablets for 180 tests, test color scale, instructions. tubes, rack, droppers, color scale, instructions. Additional tablets can be purchased as required.



FOR PATIENT USE Clinitest Plastic Pocket-Size Set (No. 2106) Includes—All essentials for testing—in a small, durable, pocket-size case of Tenite plastic.



Order from your dealer.

Complete information upon request.

AMES COMPANY, Inc.
ELKHART, INDIANA

HANGER

INVENTORS and MANUFACTURERS
of



ENGLISH
WILLOW
and
DURAL
LIGHT METAL
LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.

1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death $25.00 weekly indemnity, accident and sickness quarterly	$ 8.00
$10,000.00 accidental death $50.00 weekly indemnity, accident and sickness quarterly	$16.00
$15,000.00 accidental death $75.00 weekly indemnity, accident and sickness quarterly	$24.00
$20,000.00 accidental death $100.00 weekly indemnity, accident and sickness quarterly	$32.00

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,900,000.00	$13,500,000.00

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management
400 First National Bank Building, OMAHA 2, NEBRASKA

LOYAL PROTECTIVE LIFE INSURANCE COMPANY

BOSTON, MASS. **SINCE 1895**

NON-CANCELLABLE and GUARANTEED RENEWABLE INCOME PROTECTION

Policies with 6 Essential Features

Low Net Cost Retirement Income Contracts

W. A. Steward, Dist. Mgr.
7510 Delmar Ave.
St. Louis, Mo.

Lysle Kindig, Gen. Agt.
1202 Insurance Exch. Bldg.
Kansas City, Mo.

THE MARY E. POGUE SCHOOL

For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

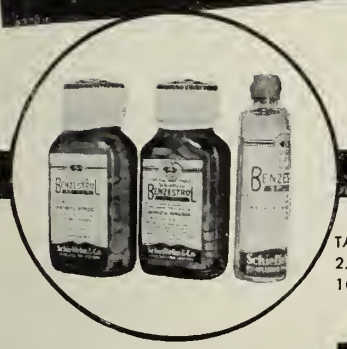
The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319

For Estrogen Insufficiency

Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)



An important contribution to more effective and more economical estrogen therapy, Schieffelin BENZESTROL offers a dependable means of relieving the distressing symptoms arising from estrogenic hormone deficiency.

Orally potent and unusually well tolerated, this synthetic estrogen is available in forms for three routes of administration: Tablets—orally; Solution—intramuscularly; and Vaginal Tablets—locally.

ORAL	INTRAMUSCULAR	LOCAL
TABLETS: Potencies of 0.5, 1.0, 2.0 and 5.0 mg. Bottles of 50, 100 and 1000.	SOLUTION: Potency of 5.0 mg. per cc. in 10 cc. Rubber capped multiple dose vials.	VAGINAL TABLETS: Potency of 0.5 mg. Bottles of 100.

Literature and Sample on Request

Schieffelin & Co. 20 COOPER SQUARE • NEW YORK 3, N. Y.
Pharmaceutical and Research Laboratories

James A. Wallace, M.D. *Medical Director*
S. N. Brinson, M.D. *Medical Director*
Charles W. Miller, Jr., M.D. *Psychiatrist*
Walter R. Wallace *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.

Zemmer

PRESCRIBE OR DISPENSE
ZEMMER PHARMACEUTICALS
A complete line of laboratory controlled ethical pharmaceuticals. Mo. 8-46
Chemists to the Medical Profession for 44 years.
THE ZEMMER COMPANY
Oakland Station • PITTSBURGH 13, PA.

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois



UNSCENTED COSMETICS
FOR THE ALLERGIC PATIENT
AR-EX Cosmetics are the only complete line of *unscented cosmetics* regularly stocked by pharmacies. To be certain that your perfume sensitive patients do not get scented cosmetics, prescribe *AR-EX Unscented Cosmetics.* SEND FOR FREE FORMULARY.
AR-EX
FREE FORMULARY
DR._____
ADDRESS_____
CITY_____
STATE_____
AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

The Norbury Sanatorium
Established 1901 — Incorporated — Licensed — Jacksonville, Illinois
• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest
• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood
• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

Theocalcin

Council Accepted

In Congestive Heart Failure

For the reduction of edema, to diminish dyspnoea and to strengthen heart action, prescribe Theocalcin, beginning with 2 or 3 tablets t. i. d., with meals. After relief is obtained, the comfort of the patient may be continued with smaller doses. Well tolerated.

Theocalcin, brand of theobromine-calcium salicylate, Trade Mark reg. U. S. Pat. Off.

Available in 7½ grain tablets and in powder form.

Bilhuber-Knoll Corp. Orange, N. J.



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.
Medical Director

225 Sheridan Road — Phone Winnetka 211



CAMP
TRADE MARK
Surgical Supports
COMPREHENSIVE STOCK
FOR MEN AND WOMEN
EXPERT FITTERS
To Serve Your Patients
THE W. E. ISLE CO.
ENTIRE SECOND FLOOR
1121 GRAND AVENUE
KANSAS CITY, MISSOURI
VICTOR 2350

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Cook County Graduate School of Medicine
(IN AFFILIATION WITH COOK COUNTY HOSPITAL)
Incorporated not for profit
Announces Continuous Courses

SURGERY—Two weeks intensive course in Surgical Technique starting August 26, and every four weeks thereafter.

Four weeks course in General Surgery starting August 12, September 9, October 7.

One week course in Surgery of the Colon and Rectum starting September 16, October 14.

One week course in Thoracic Surgery starting September 23.

GYNECOLOGY—Two weeks intensive course starting October 21.

One week course in Vaginal Approach to Pelvic Surgery starting September 16, October 21.

MEDICINE—Two weeks intensive course starting September 23, October 21.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

Teaching Faculty—Attending Staff, Cook County Hospital
Registrar, 427 South Honore St., Chicago 12, Ill.

Mullen Ambulance Company
PRIVATE AMBULANCE SERVICE
Local and Distant Trips
Day or Night
5159 Delmar, St. Louis Forest 1913

FAITH HOSPITAL
A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR
2800 N. Taylor St. Louis, Mo.
GOodfellow 6262



STERILE HIGH TITER
GROUP SERA
For ACCURATE CLASSIFICATION

Improper classification, due to weak reacting testing sera or failure to differentiate A1 from A2 bloods may cause serious trouble—even fatalities.

Our Grouping Sera are certified for HIGH TITER. Exclusively prepared under the personal supervision of Dr. R. B. H. Gradwohl for safe, efficient, *accurate* laboratory technique. We invite your inquiries.

Serum "A" (II, Moss), and Serum "B" (III Moss) represent carefully controlled experimental work to furnish the profession *carefully tested and titrated* grouping sera. Clinically reliable . . . worthy of your confidence. Anti-Rh serum to test for Rh. Absorbed B serum to differentiate between A_1 and A_2. Anti-M and Anti-N sera for blood spots and paternity work.



Write for a sample copy of The Gradwohl Laboratory Digest full of helpful hints on improved laboratory technique.

GRADWOHL LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.



Truly, this is America . . . the Doctors Meet

"That case of fibrillation was interesting."
"My diagnosis agreed with Tom's, but . . ."
"These new radio-active drugs have me puzzled."

SHOP TALK where it counts the most!

All over the nation, members of every profession follow the good American habit of getting together to talk things over. When business men meet, they analyze their common problems. When physicians meet their purpose is the same.

This free interchange of man's experience healing his fellow-man, this individual exploration into the vast field of medicine is an invaluable contribution to America. For America's progress is part and parcel of America's health. As in business or the arts, where independence begets initiative, so in Medicine the great advances come from the doctor's inner urge to improve, to discover, and to pass on to his colleagues everywhere the benefit of his findings.

IN THE typically American town of Summit, Ciba has gathered medical scientists whose one aim is the continual development of superior pharmaceuticals. Through their untiring efforts, physicians the world over are being provided with newer and finer means to safeguard health.



CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT NEW JERSEY

Boston Medical Library
8 Fenway



In response to requests from pediatricians, we are now also marketing PABENA—precooked oatmeal, enriched with vitamin and mineral supplements. PABENA closely resembles Pablum in nutritional qualities, and offers the same features of thorough cooking, convenience and economy. Supplied in 8-ounce cartons. Samples on request. Mead Johnson & Company, Evansville, Ind., U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 9

SEPTEMBER, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Water Balance
Water and Electrolyte Balance in Surgical Patients
Medical Problems of the Acid-Base Balance
Thyroid Dysfunction
Barnes Hospital Case Report
The Personality of William Beaumont

BOSTON
SEP 19 19
MEDICAL LIBRARY

EDITORIALS

Department of Public Health and Welfare
More Hospitals for Missouri?
Kansas City Southwest Clinical Society

(Contents Index Page 585)

"~ ~ ~ Unto the Third and



PROTECTION

PROTECTION against congenital syphilis can often be accomplished by treatment of the expectant mother.

Fourth Generation . . .

Proper antisyphilitic therapy during pregnancy can prevent or control syphilis in the infant . . . lower the mortality rate in fetal syphilis . . . reduce the frequency of premature labor—even if the antisyphilitic course is comparatively short and the child not cured. Syphilis in mothers can be well started toward symptomatic and serologic cure.

MAPHARSEN (meta-amino-para-hydroxyphenyl arsine oxide (arsenoxide) hydrochloride) gives maximum therapeutic effect—rapid disappearance of spirochetes and prompt healing of lesions. Minimal untoward reactions are less severe than those observed after use of arsphenamines.

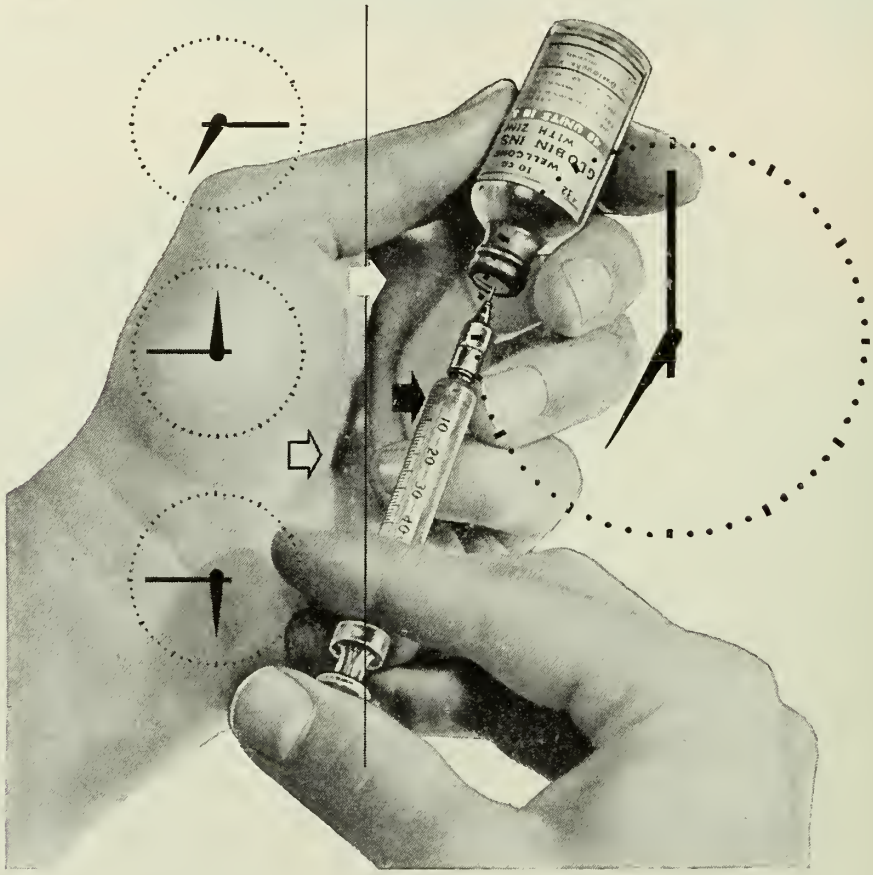
MAPHARSEN



PARKE, DAVIS & COMPANY

DETROIT 32, MICHIGAN

How to shift to 'WELLCOME' GLOBIN INSULIN from 3 injections to 1 a day...



A relatively simple procedure can make the unique advantages of intermediate-acting 'Wellcome' Globin Insulin with Zinc available to patients on regular insulin (crystalline or amorphous). Three steps can change the patient from two or more injections daily to one injection a day.

STEP 1 The initial daily dose of 'Wellcome' Globin Insulin with Zinc should be approximately 2/3 the total number of units of regular insulin previously given daily.

STEP 2 Adjust the carbohydrate distribution of the diet as required for the individual patient. This adjustment will be based on fractional urinalyses and blood sugar determination, if the latter are available.

STEP 3 Increase or otherwise adjust the daily dose of Globin Insulin as required. This adjustment is made in conjunction with step 2. Frequently, the final dosage of Globin Insulin will be not more than 4/5 the total units of regular insulin previously required daily.

Available in 40 and 80 units to the cc., vials of 10 cc. *'Wellcome' Trademark Registered.*

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

CONTENTS

Water Balance. R. O. Muether, M.D., St. Louis... 599

Water and Electrolyte Balance in Surgical Patients. Robert Elman, M.D., St. Louis..... 602

Medical Problems of the Acid-Base Balance. James B. Stubbs, M.D., Clayton, Mo. 603

Thyroid Dysfunction. Commodore Alphonse McMahon, (MC), USNR, Bethesda, Md. 606

Case Report of Barnes Hospital. Robert J. Glaser, M.D., St. Louis 610

Special Article—

The Personality of William Beaumont. Robert E. Schlueter, M.D., St. Louis..... 616

Editorials—

Department of Public Health and Welfare..... 627

More Hospitals for Missouri?..... 627

Kansas City Southwest Clinical Society..... 627

News Notes 629

Society Proceedings 629

Cancer Clinics at the Ellis Fischel State Cancer Hospital 658

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Harrison H. Shoulder, Nashville.
President-Elect, Olin West, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgraduate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1948); R R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

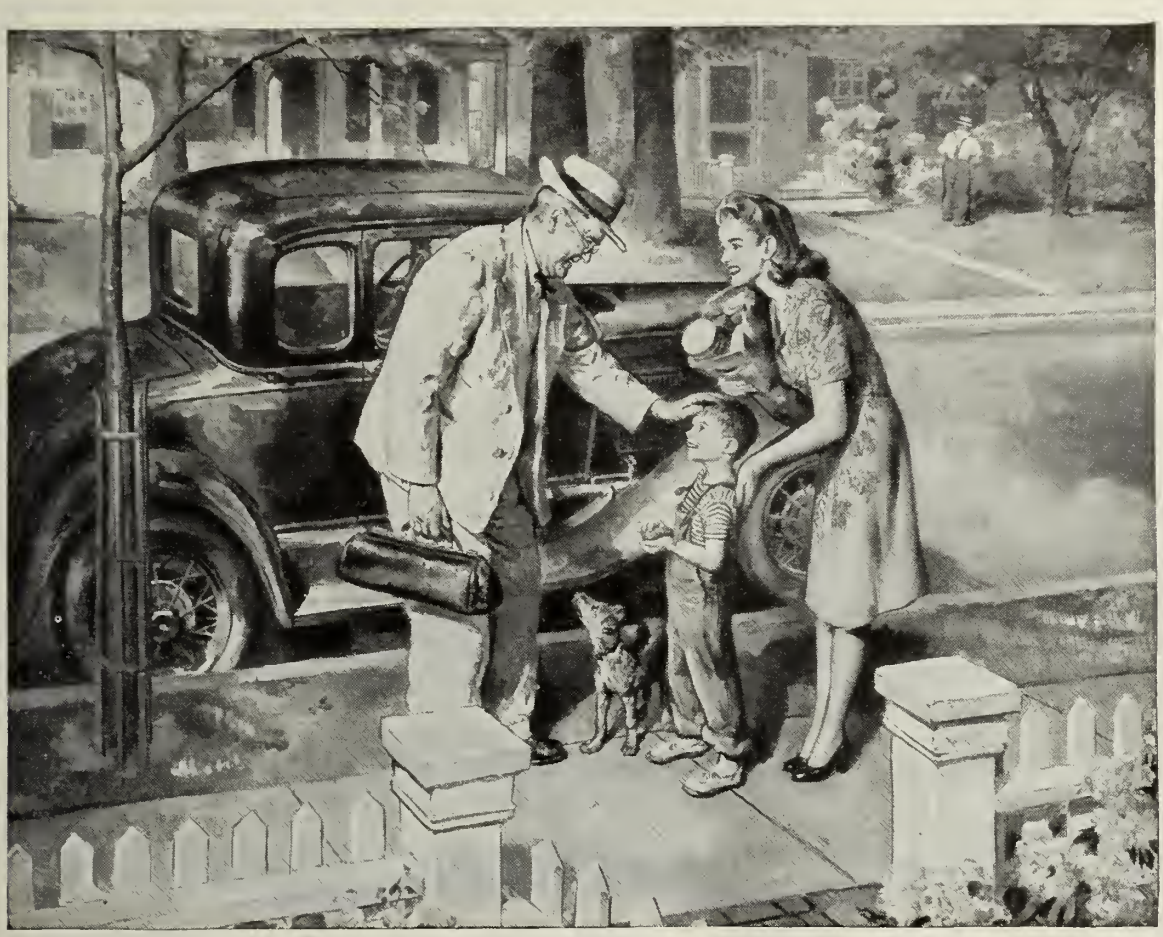
Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, *Iron*, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.



The doctor makes his rounds

● Wherever he goes, he is welcome . . . his life is dedicated to serving others.

Not all his calls are associated with illness. He is often friend and counselor . . . he is present when life begins, watches it flourish and develop. His satisfactions in life are reflected in the smiling faces of youngsters like this one above, and of countless others whom he has long attended.

Yes, the doctor represents an honored profession . . . his professional reputation and his record of service are his most cherished possessions.



According to a recent independent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

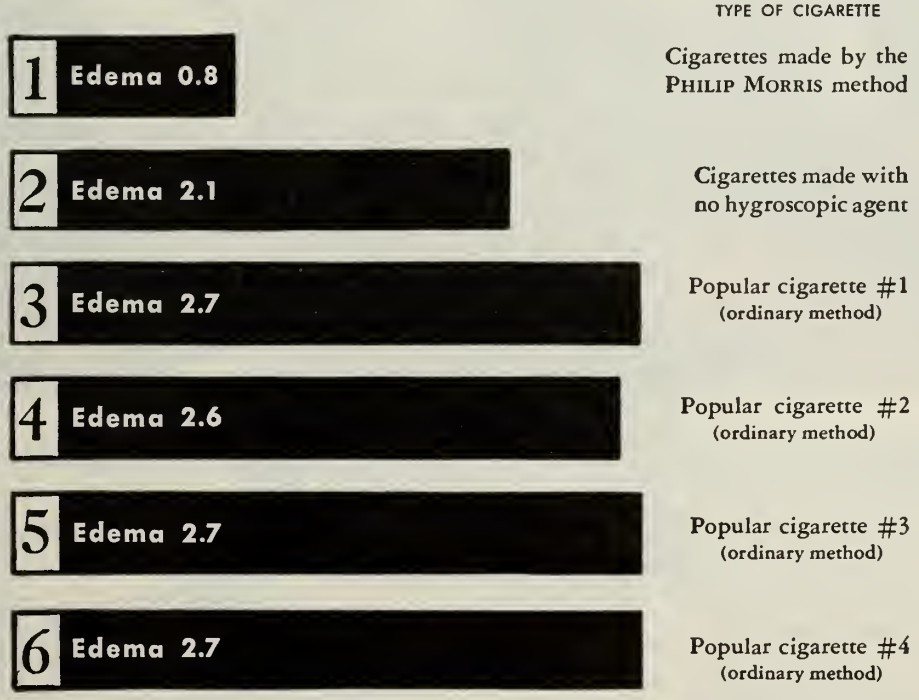
R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethony
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	Morris Leech	Fayette	Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	Thomas A. Donnell	DeSoto
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	B. E. Ellis	Gideon	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Maryville	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford-Dent-Pulaski	9	G. E. Joseph	Salem	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield

How irritation varies from *different* cigarettes

Tests made on rabbits' eyes reveal the influence of hygroscopic agents*



CONCLUSION:* Results show that regardless of blend of tobacco, flavoring materials, or method of manufacture, the irritation produced by all ordinary cigarettes is substantially the same, and measurably greater than that caused by PHILIP MORRIS.

CLINICAL CONFIRMATION: ** When *smokers* changed to PHILIP MORRIS, substantially every case of irritation of the nose and throat due to smoking cleared completely or definitely improved.

**N. Y. State Journ. Med. 35 No. 11,590 **Laryngoscope 1935, XLV, No. 2, 149-154*

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.



Truly, this is America . . . the mothers go to school

More than 3,000,000 American mothers, members of some 45,000 Parent-Teacher Associations and similar groups, go back to school to keep on learning the art of living.

YOUR DOCTOR is determined that your children shall have a better start than you did.

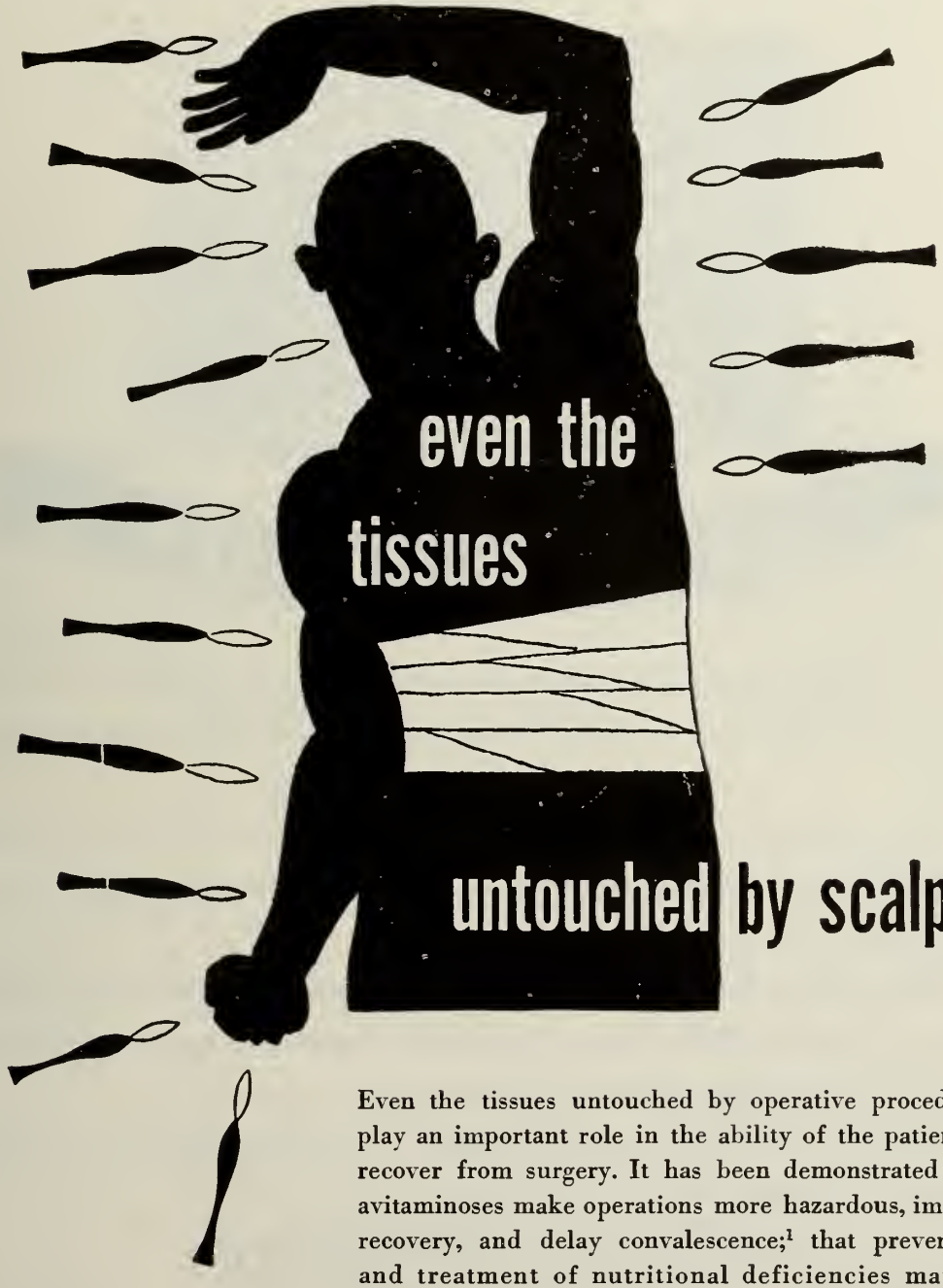
Within our time, the health of this nation's young has become the equal concern of its parents, its schools and its medical profession—a profession whose national standards and pediatric advances are held high for the world to see.

In this achievement, American medicine has smoothed the path by keeping its physicians completely free agents—free to speculate in and develop any of the countless fields encompassed by the art of healing.

Just as American mothers exchange freely their knowledge and methods of their children's problems, so do American physicians exchange their skills and knowledge.

HERE in laboratories located in the typical American community of Summit, New Jersey, medical men of the Ciba organization are spending their lives in pursuit of the newer and finer pharmaceuticals with which the medical profession determinedly advances the treatment of disease. Free to follow their own lines of research, each speeds the work of his associates through open exchange of methods and ideas.

CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT NEW JERSEY



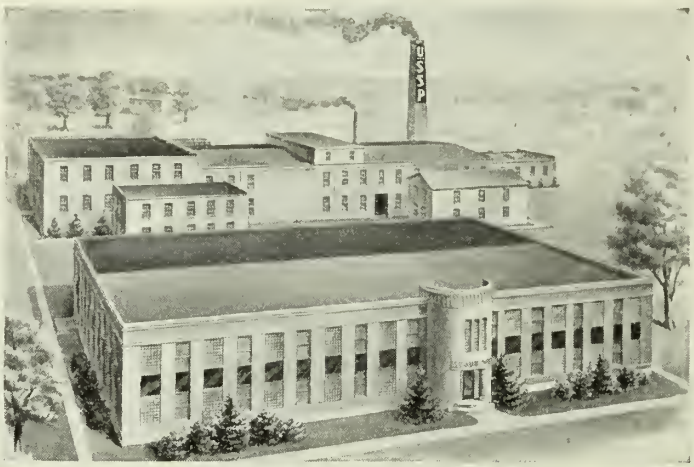
Even the tissues untouched by operative procedures play an important role in the ability of the patient to recover from surgery. It has been demonstrated that avitaminoses make operations more hazardous, imperil recovery, and delay convalescence;[1] that prevention and treatment of nutritional deficiencies may be "decisive"[2] in recovery following surgery. In the field of oral and parenteral vitamins, Upjohn offers a full range of highly potent, convenient to administer, economical vitamins.

1. Virginia M. Monthly **72**:240 (June) 1945.
2. Am. J. Surg. **54**:299 (April) 1942.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS



REALISTIC UTILITY

Not only because of *how* they are produced, but in *what* is produced, U. S. Standard Products are proving of significant value in meeting the problems of both general and specialized practice.

Held unvaryingly to standards of potency which have earned for them wide recognition for dependability, the physician finds in the U. S. Standard Products list of fine pharmaceuticals a selection of wide scope and usefulness.

Aiming always at realistic utility, deviating from the traditional in order to progress, products are made available to meet *unusual* requirements—yet the old and time-tested are not left behind in the swift rush of the merely novel.

Increasingly, the medical profession is finding in U. S. Standard Products fine preparations suited with singular aptness to their needs.

OUTSTANDING U. S. STANDARD BIOLOGICALS:

DIPHTHERIA TOXOID • TETANUS ANTITOXIN • SMALLPOX VACCINE • TYPHOID VACCINE

Also a representative list of glandular products and pharmaceuticals.

U. S. STANDARD PRODUCTS CO

WOODWORTH, WISCONSIN, U. S. A.



Natural bridge

AMNIOTIN, highly purified *natural* estrogenic complex, carries the woman across the menopause smoothly, safely . . . and economically. Adequate parenteral dosage controls vasomotor and accompanying symptoms promptly; oral administration then affords simple maintenance. Wholly derived from natural sources, AMNIOTIN is well tolerated. Available in oral, parenteral and intravaginal dosage forms in a wide range of potencies, it offers notable flexibility. Backed by more than seventeen years of clinical use; standardized in International units.

SQUIBB

Amniotin
TRADEMARK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



SAFE • Four years of intensive clinical research, with more than 1,400 published cases, have established Demerol analgesia in labor as a safe procedure. Demerol analgesia is harmless to mother and baby. It does not weaken uterine contractions or lengthen labor. There are no post-partum complications due to the drug.

SIMPLE AND EFFECTIVE • Demerol hydrochloride is administered orally or by intramuscular injection. Average dose: 100 mg., when the pains become regular, repeated three or four times at intervals of from 1 to 4 hours. In analgesic power Demerol hydrochloride ranks between morphine and codeine; it also has a spasmolytic effect comparable with that of atropine, as well as a sedative action. It may also be used in conjunction with scopolamine or barbiturates for amnesia.

WRITE FOR DETAILED LITERATURE

DEMEROL

Trademark Reg. U. S. Pat. Off. & Canada

HYDROCHLORIDE

BRAND OF MEPERIDINE HYDROCHLORIDE
(Isanipecaine)

SUBJECT TO REGULATIONS OF THE FEDERAL BUREAU OF NARCOTICS

WINTHROP CHEMICAL COMPANY, INC.

PHARMACEUTICALS OF MERIT FOR THE PHYSICIAN

NEW YORK 13, N. Y. WINDSOR, ONT.



to combat

mental depression in the menopause

"... because the involutional period is fraught with sadness the different forms of mental disorder of this age may be highly colored with mental depression."*

Severe menopausal depression, marked by apathy and psychomotor retardation, is frequently progressive. Hence, if not promptly and effectively treated, it may seriously impair the patient's normal capacity for useful living.

In such cases, Benzedrine Sulfate helps to overcome the depression, to restore optimism and to reawaken the savor and zest of life. Needless to say, Benzedrine Sulfate is not indicated in the casual case of low spirits, as distinguished from true prolonged mental depression.

*Hinsie, Leland E.: The Person in the Body, an Introduction to Psychosomatic Medicine, New York, W.W. Norton & Co., 1945, p. 223.

b

Tablets and Elixir

benzedrine sulfate

(racemic amphetamine sulfate, S.K.F.)

Smith, Kline & French Laboratories, *Philadelphia, Pa.*

Protein as a Therapeutic Factor In Infectious Disease

In the recent past, increasing attention has been called to the influence of severe infections upon protein metabolism and the profound destruction of tissue and serum protein which occurs in these states.[1, 2]

In many instances, prompt control of infection by sulfonamides or penicillin is not followed by the desired degree of systemic improvement. Instead, protracted, stormy convalescence supervenes. A factor which is often responsible for delayed recovery is known to be the intense protein depletion which not only accompanies but also follows in the wake of infectious disease. Not infrequently, recovery can be sharply hastened by correction of existing nutritional deficiencies, foremost among them, protein deficiency. A protein intake, adequate both qualitatively and quantitatively, thus gains increasing significance as an integral part of therapy whenever the condition under treatment is known to lead to increased nitrogen excretion.

Among the protein foods of man meat ranks high, not only because it is rich in complete, biologically adequate protein, but also because its palatability and the many attractive ways it can be prepared make it acceptable to most patients.

---

[1] Tillett, W. S., Cambier, M. J., and McCormack, J. E.: The Treatment of Lobar Pneumonia and Pneumococcal Empyema with Penicillin, Bull. New York Acad. Med. *20*:142, March, 1944.

[2] Armstrong, S. H., Jr.; England, A. C., Jr.; Favour, C. B., and Scheinberg, I. H.: Anemia and Hypoproteinemia Complicating Severe Protracted Pneumonia: Treatment with Penicillin—Role of Specific Supportive Therapy in Recovery, J.A.M.A. *127*:303 (Feb. 10) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods and Nutrition

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES



CELLULITIS

No. 3 IN SCHENLEY LABORATORIES' CONTINUING SUMMARY OF PENICILLIN THERAPY

Cellulitis caused by penicillin-sensitive organisms readily responds to penicillin therapy. By the early administration of penicillin in adequate doses, suppuration may be prevented and prompt resolution of the inflammatory process obtained. When abscess formation has occurred, penicillin will localize and control the infection but surgical evacuation of the purulent material may be required to effect a cure.

The administration of penicillin combined, when indicated, with surgical, supportive, and other measures, will in most instances rapidly control and eradicate the infection. Thus, the duration of the disease is shortened, and the possibility of complications reduced to a minimum.

A daily total of 160,000 to 480,000 units, depending upon the severity of the infection, in divided doses every 2 to 3 hours by the intramuscular route will usually be adequate to effect a cure. Duration of the course will depend upon response to therapy. If thought desirable, as a supplement to parenteral administration, penicillin may be employed by local injection or instillation of solutions containing 5,000 to 50,000 units per cc.

WOLLGAST, C. F.: *The Clinical Use of Penicillin: A Report of 115 Cases Treated in an Army Hospital, Texas State J. M. 40:225 (Aug.) 1944.* FARQUHARSON R. F.; GREEY, P., & TOWNSEND, S. R.: *Results of Penicillin Therapy: A Report for the Joint Services Penicillin Committee, Canad. M. A. J. 53:1 (July) 1945.*

BEFORE YOU DECIDE ON THE PENICILLIN OF YOUR CHOICE

Consider this important fact: For many years, Schenley has been among the world's largest users of research on mycology and fermentation processes... from which penicillin and certain other antibiotics are derived. The wide scope of our activities in these fields is your assurance that when you choose Penicillin Schenley you choose a product thoroughly tested for potency and quality.

PENICILLIN SCHENLEY

a product of

SCHENLEY LABORATORIES, INC. Executive Offices: 350 Fifth Avenue, N. Y. C.



Without any stimulation of the central nervous system whatever, Solutions 'Tuamine Sulfate' (2-Aminoheptane Sulfate, Lilly), when applied intranasally, produce long-lasting, uniform shrinkage of the nasal mucous membrane. Furthermore, Solutions 'Tuamine Sulfate' do not impair ciliary motility and there is no secondary vasodilatation. Solution 'Tuamine Sulfate,' 1 percent, is intended for routine use and is the solution of choice for prescriptions. The 2 percent solution is supplied for application in the doctor's office when a more intense effect may be desired. Solutions 'Tuamine Sulfate' are available at all prescription pharmacies.

Lilly

ELI LILLY AND COMPANY

INDIANAPOLIS 6, INDIANA, U. S. A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 SEPTEMBER, 1946 NUMBER 9

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

ELECTROLYTE AND WATER BALANCE

WATER BALANCE

NORMAL MECHANISM, METHODS OF ADMINISTRATION, DANGERS

R. O. MUETHER, M.D.
ST. LOUIS

The body's need for fluids, primarily water, is secondary only to its needs for oxygen and, as a result of this need, numerous mechanisms are at hand to limit excess fluid loss even under the most demanding circumstances. The fluid or water of the body is necessary as a transportation mechanism to supply food, minerals and the like to the entire body and to carry away the by-products of metabolism. It is obvious that water must be capable of permeating all the membranes of the body. It easily passes through these membranes but the solutes which it contains may not, thus permitting the development of a specialized chemical make-up in various parts and organs of the body.

A discussion of water balance must consider two factors: the external equilibrium, that is, the balance which obtains between the external environment and the body, and the internal equilibrium which exists between the various compartments within the body.

External equilibrium is of course maintained when fluid intake from all sources equals fluid output from all sources. These may be stated roughly as follow. The intake is represented by the fluids ingested as such, the fluid contained in the food eaten, which often represents 80 per cent of water by volume, and the water which is formed by oxidation of food stuff within the body. The fluid loss from the body normally can be calculated by determining or estimating the fluid lost in respiration, urination, sensible and insensible, perspiration, plus the water contained in the feces. All of these are variable, and exercise, heat, and such may cause a considerable increase in water loss. It is stated generally that the water loss from the various sources under average circumstances from the average sized individual (table 1) is as follows: loss

Table 1.

	cc.
Skin (at average temperature and humidity)	500
Expired Air (at average temperature and humidity)	350
Urine	1,500
Feces	150
Total	2,500

from skin 500 cc., expired air 350 cc., urine 1,500 cc., feces 150 cc. for a total of 2,500 cc. These figures can easily be doubled or tripled by changes in temperature or the amount of work done by the body.

In pathologic states associated with fever, diarrhea, fistulas, and draining wounds the fluid loss may reach from 6 to 10 liters a day.

The fluid balance so far as the external environment is concerned is usually cared for by the normal mechanism of thirst. In sickness, organic or functional, this mechanism may be perverted and fluid intake may be excessive or inadequate.

In a discussion of fluid balance of the internal environment it is convenient to divide the body into two large compartments (table 2), intracellular and

Table 2.

Extracellular Compartment
a) Intravascular (Plasma)
b) Interstitial
Intracellular Compartment.

extracellular—the latter being subdivided into the interstitial and the intravascular compartments. The intracellular compartment (table 3) contains from 40 to 50 per cent of the total fluid or 35 liters in a 70 kilo man. The interstitial compartment, on the other hand, contains from 12 to 18 per cent or approximately 11 liters for the average man, while the plasma makes up only from 4 to 5 per cent or 3 liters in the average man. Thus total body water makes up about 70 per cent of the total body weight or approximately 49 liters.

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

Table 3.

The Approximate Amount and Division of the Body Fluid

Normal body fluid Compartments	Weight (%)	154 lb. or 70 kg. man (liters)
Extracellular:		
Plasma	4-5	3
Interstitial	12-18	11
Intracellular	40-50	35
Total Body Water, Approx.	70	49

The chemical makeup of the fluid in the various compartments is well illustrated by a graph taken from J. L. Gamble's monograph. It is obvious that the plasma and interstitial fluids are practically identical except for the amount of protein, which is much higher in plasma than in interstitial fluid. This indicates that the extracellular electrolytes can easily pass to and from the intravascular and interstitial fluid. The composition of the intracellular fluid, however, is significantly different, containing considerably more protein and having an electrolyte composition predominately potassium and magnesium in contradistinction to the sodium and calcium of the extracellular fluid.

Exchange between blood and interstitial fluid is accomplished primarily by variations in the capillary blood pressure and protein content of the interstitial fluid on the one hand and the tissue tension and serum proteins on the other. (Table 4.)

Table 4.

Exchange Between Intravascular and Interstitial Fluid
Forcing Fluid from Capillaries:
Blood pressure (capillary)
Protein (interstitial)
Forcing Fluid into Capillaries:
Tissue tension
Protein (plasma)

The exchange of water and solutes between interstitial fluid and the cells is not so simple a matter. It is obvious that the cell fluid and the extracellular fluid must be in equilibrium, yet their constituents are markedly different, and it is necessary to assume that the cell membrane interposes a barrier between the inorganic acids and bases of the extracellular fluids and that of the intercellular fluids. However it is further necessary to suppose that during cellular metabolism certain inorganic substances can enter and leave the cells. It must be conceded also that shifts in the electrolytes of the extracellular fluids, such as sodium chloride, will evoke changes within the cells. Thus a loss of sodium chloride from the interstitial fluid will cause a transfer of water to the cells; or, as is less frequently the case, a shift of electrolyte to or from the cells.

It should perhaps be pointed out here that the protein content of plasma has a relatively small osmotic effect but this effect is magnified by the fact that the electrolytes which possess greater potential effects cannot actually exert these effects due to the free passage through the separating membranes between the intravascular and interstitial compartments.

Acid-base balance is an extremely important function of water and electrolyte balance, but is perhaps too well known to require lengthy discussion. Suffice it to say that the electrolytes participate in a highly efficient buffer system which is supplemented by a loss of carbon dioxide in the respired air and the alkaline sparing mechanisms of the kidney.

With this brief discussion of the role of fluids, electrolytes, and protein in the maintenance of osmotic pressure, transportation of essential foodstuffs, and metabolic by-products and the maintenance of acid-base balance I shall mention various methods which are available for the determination of alterations in fluid and electrolyte balance.

The determination of extracellular fluid volume may be accomplished by the use of certain dyes, particularly Evan's blue, which rapidly diffuses throughout the extracellular fluids and whose concentration can be accurately determined, thus permitting the calculation of the extracellular volume from the dilution which is obtained. This procedure is of limited value however since it cannot be repeated at short intervals with any great degree of accuracy. Other methods have also been devised for determining the extracellular fluid volume, but they are on the whole no more satisfactory from a clinical standpoint than is the Evan's blue technic. It is, nevertheless, the most satisfactory procedure available for the determination of dehydration or overhydration.

Great emphasis has been placed on the hematocrit, total proteins, and serum chlorides in the determination of hemoconcentration and dehydration, but these procedures are capable of misleading the practitioner as has been shown by Abbott and others and is indicated in graph 2 of Abbott's recent article in the *American Journal of Medical Sciences* since their reliability depends on the acuteness of the process.

The clinical findings are often most useful, particularly if more elaborate tests are not available. They consist of loss of eyeball tension, decreased skin turgor, and dry mucous membranes. These findings combined with a careful history relative to fluid intake and duration of disease will often make it possible to diagnose accurately the need for fluid.

Response to therapy can be evaluated by reversal of these signs plus changes in the specific gravity of the urine, since in dehydration urine will be extremely concentrated if kidney function is normal, and as the fluid balance is restored the specific gravity will fall toward normal.

ROUTES OF FLUID ADMINISTRATION

Fluids preferably should be given by mouth. However, fluids should not be given by mouth if continuous siphonage of the gastrointestinal tract is being carried out since fluids when given by mouth, under such circumstances, increase the flow of gastric, biliary, and pancreatic fluids, and thus

increase the loss of electrolytes. If fluid must be given under such circumstances, it should be an isotonic solution of electrolytes, preferably saline.

Under certain circumstances it may be necessary to administer fluids parenterally and some physicians apparently prefer the subcutaneous route. If 5 per cent glucose is given in such a manner, a temporary extracellular dehydration will occur since the electrolytes have been shown to pass into the region of hypodermoclysis more quickly than the glucose and water will pass out, thus producing a shift of the fluid into the interstitial compartment. In markedly dehydrated patients the intravascular volume thus may be depleted sufficiently to produce a fall in the blood pressure.

Fluids, if given subcutaneously, should be administered with some caution and absorption should take place readily so that excessive tension is avoided. Large doses of chlorides should be avoided.

When possible, the intravenous administration of parenteral fluids is to be preferred. The choice of fluids is great and should be chosen with care. Glucose 5 per cent is very satisfactory for ordinary dehydration. If chlorides are low, saline may be given but excess chloride administration should be avoided.

Amino acids may be added to the glucose if the patient is in negative nitrogen balance, or if protein catabolism is increased. This mixture of amino acids and glucose may be of considerable value in cases of severe dehydration with resulting extrarenal azotemia. In such cases catabolism almost invariably is increased and the protein stores usually are depleted. Relatively large amounts of fluid, from 3 to 5 liters for 24 hours, may be necessary under such circumstances to assure an adequate urinary output and thus rid the body of accumulated waste products. It is wise to add from 50 to 150 grams of amino acids to the solutions to assure the restoration of the protein stores and to return the patient to positive nitrogen balance. This procedure may be carried out even though the nonprotein nitrogen is elevated.

In some cases fluids may be given into the marrow cavity. In adults the sternum usually is used, but in infants the long bone of the lower extremities may be used. With the needle properly in place, fluids can be given as rapidly as by vein, and often with less discomfort to the patient. Fluids may be given over relatively long periods of time in this manner and with little danger of infection, thrombosis, and the like.

Proctoclysis is a very poor method of administering fluids and probably should be avoided.

The intraperitoneal route, once widely used for children, is now rarely advocated. The use of the scalp veins and other procedures have proven much more satisfactory.

DANGERS OF FLUID ADMINISTRATION

The dangers of administering fluid parenterally are not great and can be divided roughly into those associated with the procedures of administration and those associated with the materials which are administered.

In the first group one may occasionally encounter pyrogenic reactions but these are usually the result of the use of improperly prepared infusion sets. The pyrogens are thermostable and are not destroyed by sterilization. Second, pyrogenic reaction may follow the use of fluids which contain these substances. This is rarely a problem, particularly since commercial solutions are now so widely used. Pyrogenic reactions are seldom serious producing a reaction not unlike those seen when foreign protein therapy is employed; the treatment of the reaction is symptomatic and the chill and discomfort is controlled readily by an adequate dose of morphine and heat, properly applied.

A second type of reaction which may occur is sudden overloading of the vascular tree resulting in precardial distress, dyspnea, and pulmonary edema. This reaction is unlikely to occur unless the patient already has a damaged circulatory system. In such patients fluids should be administered slowly. So called "speed shock" is an extremely rare complication and does not occur if the patient is dehydrated, or has had his blood volume depleted by severe hemorrhage or shock. Fluids can be given with remarkable speed without untoward reaction when indicated; in fact, the error is usually in giving the fluids too slowly.

The chief dangers inherent in the administration of fluids *per se* is (1) overhydration, (2) excess administration of chlorides, (3) too rapid administration of amino acids (4) and the alteration of electrolyte and acid-base balance by the administration of excessive bicarbonate solutions. The use of hypertonic solution such as acacia, sucrose, and others may be attended with some danger to the liver and kidneys but does not have a place in this discussion.

CONCLUSIONS

1. Normally, water and electrolyte balance is maintained easily through the physiologic mechanism of thirst.

2. Water and electrolyte balance serves the normal individual as a mechanism for the maintenance of a relatively constant internal equilibrium between intracellular and extracellular compartments.

3. Gross derangements of the internal equilibrium must be corrected promptly and this can be accomplished by the judicious use of the proper fluids in the proper amounts through various portals which include the gastrointestinal tract, subcutaneous tissues, the veins, and the marrow cavities.

4. The dangers of parenteral fluid administration are not great and are far outweighed by the great and immediate benefits which accrue to the patient when dehydration, disturbances in acid-base balance, and nutrition are overcome.

634 N. Grand Ave.

WATER AND ELECTROLYTE BALANCE IN SURGICAL PATIENTS

ROBERT ELMAN, M.D.
ST. LOUIS

Knowledge of fluid and electrolyte balance has increased greatly in the last decade or two, due largely to the investigations of such men as Marriott, Hartmann, Van Slyke, Gamble and others, who have worked both in the laboratory and in the clinic, usually at the same time. This knowledge, of course, applies to medical and surgical patients except that injury and anesthesia may have very profound effects on water and electrolytes, a few of the details of which I will discuss in a moment. It is of interest to note in passing that, whereas in the last century surgical advances were made in the field of anesthesia and aseptic technic, in the present century they have been made to a considerable extent because of increases in knowledge of fluid and electrolyte balance.

A few words about terminology may first be in order, especially regarding the term electrolyte. Electrolytes include all inorganic salts and minerals in the body, but in this discussion they will be limited to sodium chloride. The reason is that sodium chloride and bicarbonate are the only electrolytes present in the extracellular fluid. By contrast, the intracellular fluid contains electrolyte which is largely potassium and magnesium salts, mostly phosphate, sulphate and bicarbonate. Since most disturbances concern extracellular fluid, for the present I will discuss electrolyte as confined to sodium chloride.

There are various terms used to describe solutions of sodium chloride, especially as given parenterally. The term normal sodium chloride or saline obviously is inaccurate because it really would be hypertonic. Physiologic sodium chloride is also inaccurate unless sodium bicarbonate is present in the same proportion as in extracellular fluid, which is seldom true. The most accurate term is isotonic saline or isotonic sodium chloride, which contains 8.5 grams of sodium chloride per liter.

It was long assumed that if a patient needed water the proper way would be to use isotonic saline. It was not realized that the needs for water and sodium chloride are different. Water is utilized for the essential body processes; it is necessary for various metabolic interchanges, for the excretion of waste products, for temperature regulation by evaporation from lungs and skin. Sodium chloride presents quite a different situation because it is not consumed for ordinary metabolic activity and therefore requires no daily quota. Sodium chloride can be removed from the diet for some time with little or no impairment in physiologic function. This is true because following its deprivation the body is able to conserve sodium chloride because the kidney stops excreting it. Thus sodium chloride may be considered an unessential, water an essential component of the diet. The difference between water and sodium chloride does not end at this point because it happens that when sodium chloride is given in excess, unlike water, it may provoke difficulties. The reason is that the kidney behaves differently toward water and toward sodium chloride. Excess water usually is excreted readily by the kidney, whereas excess sodium chloride may be retained, in turn leading to increased water retention. This is true in the presence of renal damage and is, of course, the reason salt-free diets are used in the treatment of various types of nephritis.

Operation and anesthesia have profound effects on the water and electrolyte balance of the patient in at least three different ways. In the first place, operations and other trauma, produce or aggravate protein deficiencies. There is a fall in the protein content of the blood due to losses from wounds, and into inflamed, damaged tissues; as a result the patient suffers hypoproteinemia. This, according to Starling's hypothesis, interferes with normal water interchange between the blood and body tissues leading to nutritional edema, particularly when saline solution is injected. Ample clinical study has shown the frequency with which injections of isotonic saline will precipitate edema in the malnourished patient.

A second effect of operation, especially serious ones, is to impair the function of the kidneys at least to a certain extent, certainly as far as the excretion of sodium chloride is concerned. This is shown by the fact that after operation sodium chloride is retained in the body whenever it is given either by mouth or parenterally.

There is a third possible explanation of this peculiar influence of operation or injury on electrolyte balance, and that is the effect of the adrenals. After operation there is undoubtedly a hyperfunction of the adrenal cortex. These hormones, particularly desoxycorticosterone, lead to a retention of sodium and an excessive excretion of potassium.

PRACTICAL CONSIDERATIONS IN SURGICAL PATIENTS

If no sodium chloride is being lost by the patient, i.e., if there is no vomiting, diarrhea, drainage from fistulas or excessive sweating, there is really little necessity to give salt either by mouth or otherwise. A small amount of sodium chloride is probably safe, usually about 4 or 5 grams a day, or the amount which is present in 500 cc. of isotonic saline. On the other hand, if a postoperative patient receives all of the usual amount of water as isotonic saline, he will be receiving in 3 liters almost 27 grams of sodium chloride. Of this he may excrete only 1 or 2 grams a day, thus retaining each day over 20 grams. This amount will increase the osmotic pressure of the body fluids which, with the retention of water, will lead to edema of the peripheral tissues, extravasation of fluid into the wound and alveoli of the lungs. The latter may lead to serious pulmonary

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

complications. The fact that the osmotic pressure in the body has been increased by injecting more salt than the patient can get rid of is the fundamental reason why saline solution (unless it is used to replace losses) may be deleterious. This has now been well emphasized by many surgeons but is still insufficiently realized. On the other hand, patients should not be deprived of sodium chloride if needed to correct actual losses, which have occurred or are occurring. If the patient has vomited, has diarrhea, has a nasal catheter through which gastric juices are escaping, intestinal fistula through which gastrointestinal secretions are escaping, or is perspiring freely, sodium chloride must be given, although usually three to five liters are adequate to meet an accumulated deficit and one or two liters to replace large daily losses.

For the surgical patient a frequently asked question is: Should the patient get glucose in water or glucose in saline? This can be answered by saying that salt should be given only to correct deficits or losses, but that otherwise very little is necessary and in fact if much is given may prove deleterious. Glucose, 5 per cent (in water), is isotonic and is a physiologic way of giving the patient water without having to inject distilled water. Distilled water should not be injected because it is hypotonic and may produce hemolysis or tissue damage. Glucose in water is quickly metabolized and is the way to correct for water deprivation or to provide water for ordinary maintenance.

There are two other practical therapeutic factors I would like to mention. First, that the oral administration of fluids and food is always to be preferred to the parenteral one when it can be used. There are many things the gastrointestinal tract does that we do not know about and if the patient can take food and fluids by mouth he should do so. The parenteral route is often necessary and may be lifesaving, but should be limited to as short a time as possible. Ordinarily, my postoperative routine is to give parenteral fluids for only a few days after operation.

The second point is, make the fluids complete. Better parenteral fluids but less of them might be adopted as the general policy. A program in which all of the needs are met, especially in one solution, should be adopted. Aside from fluids for the correction of losses, all the patient needs each day is two liters, each containing 50 grams of hydrolyzed protein (Amigen), 50 grams of glucose and 2 grams of sodium chloride. For an everage sized adult following serious operation in which nothing can be taken by mouth, one liter is given in the morning, one in the evening. The only other need is for vitamins, which are injected separately. This completes the parenteral requirement except when patients develop deficits during the course of treatment. These require either additional saline, whole blood or plasma transfusions and, occasionally, with alkalosis or acidosis, other solutions to remedy these changes. These include ammonium chloride for alkalosis, sodium lactate or bicarbonate for acidosis.

600 S. Kingshighway.

MEDICAL PROBLEMS OF THE ACID-BASE BALANCE

JAMES B. STUBBS, M.D.
CLAYTON, MO.

For the purpose of the clinician it is most practical to visualize the problems of acid-base balance under several categories. In the first place, it may be said that the complete history and physical examination are fundamental. Then through further laboratory studies one may divide these conditions into classes which give a hint which is useful in the treatment.

The deficiencies of basic constituents of the blood may arise from several sets of circumstances[1]:

I. The accumulation of organic or inorganic acids which attempt to neutralize the cationic side of the blood buffer systems. This increase may be noted as a rise in the blood chlorides following ammonium chloride ingestion, the formation of keto acids in diabetic acidosis or formic acid which is the modus operandi of methyl alcohol poisoning. The inability to expel carbon dioxide from the body is one subgroup which is resultant from drowning. Asphyxia, congestive heart failure, emphysema and severe asthma and morphine depression of the respiratory center also must be mentioned. Chronic glomerulonephritis is attended by a rise in the sulfate and phosphate radicals.

II. Deficiencies of the acid constituents may result from an oversupply of alkali or a loss of acid substances. The use of ionizable alkaline powders in the treatment of peptic ulcers, the loss of acid by mouth, fistula or rectum are of particular interest to the gastroenterologist. Hyperpnea of the anoxic state, fever, hysteria or encephalitis may deplete the carbonic acid buffers.

III. The endocrine glands such as the parathyroid and adrenal may at times produce electrolyte changes which are concerned chiefly with the quantitative relation between certain of the ions. They are concerned with the calcium, sodium and potassium.

The coma of acidosis and tetany of alkalosis provide the two extremes from which the psychologists[2] have at times attempted to explain various personality patterns. Emotional depression might be suggested by a shift toward the acid side. Alkalinization, on the other hand, produces a feeling of wellbeing. Hyperventilation may result from an anxiety state or cardiac failure. Vertigo, palpitation, carpopedal spasm, perioral pallor may all be produced by the reduction of the CO_2 of the blood.

The symptoms[1] of acidosis may be enumerated as loss of appetite, lethargy, muscular pains, head-

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.
From the Department of Internal Medicine, St. Louis University School of Medicine.

ache, nausea, vomiting, cramps, polyuria and hyperpnea. The hyperpnea and anhydremia are the factors of most serious moment. The acetone breath may be noted if there is ketosis present. Coma signals the terminal events.

Alkalosis may be represented by lightheadness, lassitude, vertigo, nausea and headache before the onset of tetany with the muscular spasms, nystagmus, cherry red lips and at times convulsions.

The acidosis in chronic glomerulonephritis[3] may be the most hazardous aspect of the disease. Many patients succumb to the acidosis who might otherwise live to recover a fair part of their renal function. The retention of acids, i. e., phosphates and sulfates by kidneys in which ammonia production is impaired results in a loss of the alkali reserve and thereby acidosis ensues.

Marzullo[3] found that 94 per cent of a group of patients with chronic glomerulonephritis had a carbon dioxide combining power of less than 53 volumes per cent. Those patients with a carbon dioxide combining power of less than 35 volumes per cent presented the more severe symptoms of weakness, vomiting, restlessness, nocturia, drowsiness, muscular twitchings, itching, convulsions and coma. In this group he found that the identity of acidosis and nitrogen retention become increasingly difficult clinically.

The therapeutic inference is that the nephritic patient should be maintained in water and electrolyte balance as nearly normal as possible. If it is considered that the approximate normal water losses for the 60 kg. adult are[4] 1,000 cc. in the urine, 100 cc. in the stool and from 600 to 1,000 cc. insensible water loss, the usual water allowance would be from 1,800 to 2,500 cc. per person, from 30 to 45 cc. per kg. or from .5 to .7 ounces per pound. If parenteral fluids are to be used, that quantity which would insure a 1,000 cc. daily urinary output is desirable.[5]

Qualitatively, the solution should contain equal parts of isotonic saline and 5 per cent glucose with sodium lactate—Ringer's solution—to make an isotonic solution (1 ampule (40 cc.) to 200 cc. glucosaline mixture). If there is a severe sodium deficiency it may be corrected by giving 1.5 gm. sodium bicarbonate per 100 cc. as needed.

Another factor to be considered in chronic nephritis[5] is the hyperphosphatemia which has a depleting effect upon the calcium ion in the blood through the reciprocity of the calcium-phosphorus relation. Muscular cramps and twitching and later tetany are the result of the hypocalcemia. Chvostek's and Trousseau's signs may be present. This problem must be met with an attempt to readjust these two particular electrolytes. Usually aluminum hydroxide and iron salts[6] when administered by mouth precipitate insoluble phosphate salts in the gastrointestinal tract. To raise the blood calcium[7] an alkaline ash diet with calcium gluconate and 3 cc. dihydrotachysterol are given daily.

Spontaneous potassium intoxication may occur in uremic patients.[8] These patients are oliguric or anuric. Their symptoms attributable to the high blood potassium are paresthesia and weakness. The electrocardiogram may show elevations and variations in the T waves, sinus arrest and variations in the amplitude of the R waves. The terminal picture is that of auricular arrest, idioventricular rhythm and intraventricular conduction defects. Calcium gluconate and insulin may be of value in the treatment of this occurrence and, of course, potassium intake must be restricted.

The other major display of clinical acidosis is in the ketosis of diabetes. This in short may be attributed to the rise of the anionic ketone acids in the blood with depletion of the alkali reserve and rise in the anion values with exception of chlorides and bicarbonates.[9]

There has been put forth many arguments pro and con on the use of glucose in the treatment of diabetic acidosis. Recently Peters[10] has given a statement in favor of the use of glucose following his study of starvation diabetes. The exact site of operation of insulin is not known, however, acceleration of the oxidation of muscle glycogen is probably its action and any formation or breakdown of liver glycogen is only an indirect action. The depancreatized animal converts all carbohydrates to glucose. Since other compounds capable of yielding glucose must be changed to glycogen by the liver before glucose is produced is offered as proof that insulin is not necessary for liver glycogenolysis. Increased protein catabolism and ketosis are the early results of impaired or retarded carbohydrate metabolism.

Root[11] in his expressions against the use of glucose in diabetic acidosis shows that the effects of insulin are (1) restitution of the power to utilize glucose, (2) the resumption of glycogen storage and (3) the use of carbohydrates instead of fats. He continues by citing the ill effects of 50 grams of glucose in diabetic coma. From 5 to 10 grams of glucose per hour is all that is needed to check ketone production. Insulin action is neutralized by glucose. The rise in blood sugar voids the usefulness of the blood sugar level as a guide to therapy. Excessive hyperglycemia is harmful to the pancreas. Excessive hyperglycemia in acidosis produces increased diuresis and later anuria. There is evidence also that excessive hyperglycemia causes hepatic damage.

Almy, Swift and Tolstoi[12] advocate a routine in diabetic acidosis which consists essentially of 25 units of regular insulin every half hour as long as there is acetone in the urine and every two hours for four doses following the first acetone free specimen. If the patient is alert he is given from 1 to 1½ liters of fluids by mouth which contain from 50 to 75 grams of glucose in orange juice, six ounces of salt broth and water to make up the remainder. If the patient is comatose or has demonstrated any evidence of nausea or vomiting in the last twenty-four hours, he should be given 750 cc. of glucose in

isotonic saline in the first hour of treatment. The urine is tested every half hour until acetone and diacetic acid are no longer present in the urine. If the patient has become anuric or has severe nephritis his blood carbon dioxide combining power is followed in place of his urine. Sodium chloride is only of use in relieving acidosis when the kidney of the patient is capable of excreting the chloride in combination with the ammonium ion. If the kidney is insufficient in function then ⅙ molar sodium lactate solution is used.

It may be added that restoration of the fluid and salt supplies of the body and reestablishment of the integrity of the circulation marks the recovery from acidosis.

One emergency form of acidosis is that which results from methyl alcohol poisoning. The oxidation of the alcohol forms formic acid in the blood which is not readily excreted and central nervous system damage as well as damage to other systems may produce irreparable results. The prompt recognition of the acidosis and its correction by the use of ⅙ molar racemic sodium lactate in chloride solution is advised.[13]

Clinical alkalosis is best described by the changes which occur following vomiting associated with pyloric obstruction or loss of gastric contents through a fistula. These changes[14] commonly manifest an increase in the carbon dioxide combining power, increase in the blood urea nitrogen and decrease in the plasma chlorides. The increase in urea nitrogen is not clearly understood but several factors may play a role. There may be increased proteolytic activity by some "toxic substance" while the body is in a dehydrated state. A "toxic nephritis" has been speculated as a result of dehydration which produced a renal insufficiency. The high specific gravity of the urine does not lend credence to the nephritic view. The azotemia appears to be reciprocal with the plasma chloride level but it is doubtful that this is compensatory to retain osmotic pressure.

As the gastric chlorides are lost the blood chlorides fall. The blood bicarbonate content rises. With the starvation factor added, ketosis may be superimposed and initiate a call upon the alkaline reserve. This situation is best treated with glucose and saline intravenously to restore the blood chlorides and to relieve the starvation ketosis.

In diarrhea and dysentery there is a loss of all gastrointestinal electrolytes which contain more sodium than chlorides so there is a resultant acidosis.

An increase in parathyroid secretion produces an increase in urinary phosphate excretion by lowering the renal threshold for phosphates. The next echelon is a fall in the serum phosphates, mobilization of calcium and the urinary calcium output is increased. This may be concomitant with a diuresis and loss of sodium bicarbonate, potassium and magnesium.[15] This mechanism frequently plays a role in the electrolyte change in chronic nephritis, pituitary basophilism, osteomalacia, Paget's disease and metastatic carcinoma involving bone.

Highman and Hamilton[16] report the presence of increased parathyroid activity in 85 per cent of a series of patients with nephritis. They used an ingenious method for the determination of a parathyroid activity which consisted of injection of a sample of the patient's blood into a rabbit. If there was a marked rise in the rabbit's serum calcium then the patient was considered hyperparathyroid.

Loeb[17] has pointed out the electrolyte changes which occur in chronic adrenal insufficiency. Primarily they consist of a rise in the serum potassium, calcium and phosphorus with a fall in the sodium and chloride of the blood. Potassium administration may precipitate an Addisonian crisis in spite of ample sodium chloride provisions. Desoxycorticosterone and sodium chloride will adequately maintain the patient with Addison's disease provided his potassium intake is restricted to 1.6 grams a day.

Two conditions which are involved in sodium and potassium metabolism are worthy of mention because of the trend in present day therapeutics. These conditions are essential hypertension and congestive heart failure.

In hypertension, Grollman and Harrison, et al, have been able to produce a hypotensive effect with a dietary restriction of sodium chloride to less than 1 gm. per day. The results have been nullified promptly by sodium chloride administration. This sodium starvation (with adrenal insufficiency) probably accounts for the success of some of the diets of vegetables, rice, milk and complete fasting which have recurred in popularity for the past generation. Plesch recommends a salt-free low nitrogen diet in the treatment of angina pectoris associated with hypertension.

In congestive heart failure there seems to be an inability of the kidneys to excrete sodium in their usual fashion. Decreased renal function and anoxia aid sodium storage in the extracellular fluids. This soon creates a vicious cycle which encourages edema formation. The salt-free diet which has either an acid-ash or neutral residue may be used and frequently is attended by good results. Digitalis, oxygen and diuretics, however, retain their usual position in the treatment of congestive heart failure.

In conclusion, it may be stated that the medical problems of the acid-base balance depend upon their recognition and on understanding of their mechanism; in turn their treatment will be more rational. The altered renal function, presence of abnormal acids within the blood, electrolyte loss from the intestinal tract and the mechanism of endocrine dysfunction upon the blood electrolyte have been discussed.

116 N. Central Ave.

BIBLIOGRAPHY

1. Wiggers: Physiology in Health and Disease, ed. 4, p. 410.
2. Shock: Personality and the Behavior Disorders, p. 591.
3. Marzullo: Clinical Studies in Renal Disease III. Acido-

sis in Chronic Glomerulonephritis, Ann. Int. Med. 13:9, p. 1638.
4. Butler and Talbot: Parenteral Fluid Therapy, New England J. Med. 231:17, p. 585.
5. Bradley: Management of the Patient With Chronic Diffuse Glomerulonephritis, M. Clin. North America (September) 1945, p. 1184.
6. Fauley, Freeman and Ivy: Aluminum Hydroxide in the Therapy of Peptic Ulcer, Arch. Int. Med. 67:563, 1941.
7. Liu and Chu: Studies of Calcium and Phosphorous Metabolism With Special Reference to Pathogenesis and Effects of Dihydrotachysterol and Iron, Medicine 22:103, 1943.
8. Marchand and Finch: Fatal Spontaneous Potassium Intoxication in Patients With Uremia, Arch Int. Med. 73:384, 1944.
9. Gamble: Extracellular Fluid. Chart 43. 1942.
10. Peters: Starvation Diabetes: Reason for Use of Glucose in Diabetic Acidosis, Yale J. Biol. & Med. 17: (July) 1945, p. 705.
11. Root: The Use of Insulin and Abuse of Glucose, J. A. M. A. 127:10, p. 557.
12. Almy, Swift and Tolstoi: Treatment of Diabetic Acidosis and Diabetic Coma, J. A. M. A. 129:13, p. 863.
13. Chew et al: Alkali Treatment of Methyl Alcohol Poisoning, J. A. M. A. 130:2, p. 61.
14. Noth and Wilbur: Chemical Changes in the Blood of Patients With Pyloric Obstruction, Ann. Int. Med. 13:8, p. 1285.
15. Bodansky and Bodansky: Biochemistry of Disease, p. 365 et seq.
16. Highman and Hamilton: Hyperparathyroidism in Kidney Disease, J. Clin. Investigation 16:103, 1937.
17. Loeb: Chemical Changes in the Blood in Addison's Disease, Science, 76:420, 1932.
18. Grollman and Harrison, et al: J. A. M. A. 129:533, 1945.

THYROID DYSFUNCTION

COMMODORE ALPHONSE McMAHON, (MC), USNR
BETHESDA, MD.

The position and importance of the thyroid gland in the endocrine economy of the body has been modified by progressive discoveries of the functions of the other endocrine glands. The increasing knowledge of these functions and a better understanding of gland interrelationships has altered, in some respects, the metabolic importance of the thyroid gland and placed it in a proper position in relation to the other glands.

The approach to an understanding of the functional abnormalities of the glands has been broadened by the newer concepts of stimulation and depression of gland function by other glands in the endocrine chain. This knowledge has forced a reconsideration of therapeutic procedures, and has introduced, where possible, methods of therapy based upon the interrelationships of the various glands.

The thyroid gland being only one gland in the complex chain of glands that regulate the metabolism and functions of the body, must itself be influenced by the secretions of other glands. One of the most important functions of the hormone of this gland lies in its calorigenic activity. An excess of thyroxin in the blood stream results in an increase in tissue activity with a consequent increase in the consumption of oxygen which is manifested by an increase in the basal metabolism of the organism. The chemical mechanism of this process is not understood clearly. This increased metabolic activity within the cells of other glands is undoubtedly an important mediating factor in the alteration of their function.

In addition to the general calorigenic effect, the thyroid may exert a specific calorigenic effect on the pituitary gland. The available evidence in the literature substantiates the view that the thyroid gland also exerts a specific influence on this latter gland and through this may indirectly influence all glands under the control of the pituitary gland.

Rogowitsch in 1889 demonstrated this relationship in his experiments on rabbits, in which he observed that total thyroidectomy caused pituitary hypertrophy. The significance of these results as a possible basis for establishing the relationship of the pituitary gland to altered functional states of the thyroid gland was not appreciated fully until a much later period.[1]

Numerous investigators have shown that pituitarectomy results in involution of the thyroid. Simmonds in 1914 described a syndrome which represents, functionally, the results of a total hypophysectomy in man. In some cases, a myxedematous state may occur with this syndrome.

The role of the anterior lobe of the pituitary gland in regulating thyroid activity through a thyrotropic hormone has been demonstrated experimentally by numerous investigators. It is well established that this principle will produce pathologic changes in the thyroid gland similar to those seen in spontaneous symmetric toxic goiter. The gland is increased in size with hyperplasia and hypertrophy of the cells, depletion of iodine, loss of colloid and an irregular type of follicles. These characteristic changes are accompanied by the signs and symptoms of increased thyroid function.

Experimental evidence substantiates the fact of the depressant effect of the thyroid hormone on the thyrotropic activity of the anterior lobe of the pituitary gland.[2]

It has been shown by Uotila[3] that thyroxin produces atrophy of the thyroid similar to hypophysectomy. He attributed the atrophy to the anterior lobe of the pituitary.

Means[4] has reported more thyrotropic activity in the blood and urine of myxedematous patients and patients who have undergone thyroidectomy and less in the blood and urine of normal persons.

The evidence collected from the literature seems to establish the relationship of the thyroid gland to the pituitary gland and places the pituitary gland in the position of a moderator of thyroid activity. The facts as to the mechanism through which this occurs are not sufficiently clear to definitely establish the process. The existence of a rhythm between functional activity of the thyroid and pituitary glands may be postulated. The maintenance of this rhythm and a balanced state of activity are necessary in order that both glands may function in harmony and that the organism may remain in metabolic equilibrium.

The dysfunctions of the thyroid gland, for purposes of simplicity and convenience, may be classified into those alterations of activity of the gland

Presented at the twenty-third Anuual Fall Clinical Conference of the Kansas City Southwest Clinical Society, Kansas City, October 1, 2, 1945.
The opinions herein expressed are those of the author and not necessarily those of the Medical Department of the U. S. Navy.

in which the thyroid hormone is diminished in amount, completely lacking or present in excessive amounts. The clinical states accompanying these major alterations of functions are recognized as hypothyroidism with the two former conditions, and hyperthyroidism with the last named. Clinicians are familiar with the various manifestations of these dysfunctions and seldom fail to recognize them when the disease is markedly pronounced. Symptoms due to mild alterations of functions may pass unnoticed or may give rise to diagnostic difficulties.

Hypothyroidism may be either primary or secondary. The primary type occurs when the thyroid tissue is reduced in function or ceases to function either through infection, extirpation or atrophy of the gland. Cretinism, spontaneous myxedema and hypothyroidism following thyroidectomy are the clinical manifestations of this dysfunction. The cessation or reduction of function that follows inadequate stimulation of the gland such as may occur in deficiencies of the anterior lobe of the pituitary and at times in Addisons' disease is designated as secondary hypothyroidism.

The thyroid hormone may influence the tissues of the body directly in addition to the direct and indirect effect on other endocrine glands. The growth of tissues with maturation and differentiation of cells may be impeded seriously by the absence of this hormone. This effect is seen characteristically in the retardation of growth and development in the cretin. The knowledge of the retardation of osseous development in childhood athyreosis as manifested by the delay in appearance of centers of ossification and in the union of epiphyses has been an invaluable aid in the early diagnosis of this condition.

Myxedema, which may appear in childhood or adult life, more commonly in the latter, is the clinical expression of an extreme reduction in, or a complete absence of, the thyroid hormone. The symptoms associated with this decrease in the hormone may vary in degree, bearing a close relationship to the amount of the circulating hormone which may be correlated in time with the reduction in the basal metabolic rate.

The lowest level of basal metabolism (from minus 40 to 50 per cent) is reached in from seventy to ninety days after cessation of thyroid administration. The extreme signs of this disease appear at some time subsequent to the attainment of the lowest level of basal metabolism, although some manifestations may appear at levels of minus 20 to 25 per cent.

The diagnosis of myxedema presents no difficulty when the disease has reached the maximum state. The facial appearance is classical with puffiness of the face, narrowed palpebral slits and an apathetic expression. The puffiness of hands and feet with the myxedematous infiltration of the subcuticular tissue and the thick dry skin are constant accompaniments. The tongue is thickened and together with the general retardation of mental reaction, contributes to the alterations of speech, which becomes slow and slurred. Concentration and memory are poor. The alterations in the dermal structures, hair and nails, represent the general reduction in tissue function. The lowered basal metabolic rate confirms the diagnosis of this disease.

The action of thyroid hormone on water, salts and colloids of the body is well known. The diuresis that follows the administration of thyroid gland in myxedema, due to primary dysfunction of the thyroid gland, is produced by the oxidation of the so called "deposit protein" and the consequent release and elimination of the water and salt, chiefly sodium salts held in combination with the protein. The blood content of sodium and chloride in this condition are within normal limits, while the urinary excretion of chlorides is low.[5] In myxedema due to dysfunction of the pituitary gland, the pituitary myxedema associated with Simmonds' disease, both sodium and chloride are low but the urinary excretion of chlorides is high.[6] This fact may serve to differentiate the two types of myxedema. In the latter type, the increased elimination of chloride accompanies an insufficiency of the adrenal cortex.

The control of the thyroid hormone on the blood lipoids is evidenced by the fact that the blood cholesterol is elevated in hypothyroidism and reduced or normal in hyperthyroidism.

It is well to stress at this time that low basal metabolic rates may occur in patients presenting no symptoms of hypothyroidism. The basal metabolic rate should at all times be correlated with the clinical manifestations. The failure of response to the administration of thyroid gland as a therapeutic test in these patients will serve as a differentiating fact. The production of a normal basal metabolic rate in these cases may be attended by symptoms similar to those of hyperthyroidism. Normal thyroid function is not incompatible with a low level of the metabolic rate.

The size of the thyroid gland in myxedema is variable. A goiter may be present and may represent, on the basis of previous discussions of the thyrotropic hormone, an ineffectual or inadequate stimulation of the thyroid. The enlargement also may occur as a result of the effort of the gland itself to produce sufficient hormone.

The treatment of primary hypothyroidism by the oral administration of dessicated thyroid has become an almost conventional procedure with, however, a disregard at times, of the potential dangers inherent in the use of the drug. In general, it may be well to follow a plan in which no more of the gland is used than is necessary to maintain a normal metabolic level. The dosage may be established by initiating the treatment with relatively minimal doses and increasing the dose by similar increments until a satisfactory effect is produced. A plan of this type will result in the avoidance of unpleasant reactions and the dangers of accident. Anginal attacks or coronary thrombosis may develop in arteriosclerotic patients subjected to the

rapid cardiac stimulation occasioned by large initial doses of the drug.

The major problem confronting the clinician in the treatment of secondary hypothyroidism is the restoration of the glands primarily involved to a more normal function. The administration of the thryrotropic hormone of the pituitary may produce some results in pituitary myxedema. These results may persist, however, only for a few weeks due to the development of an immunity. Thyroid gland should be administered in cases showing extreme hypofunction of the adrenal cortex. Whether primary or secondary to pituitary disease, the administration of thyroid gland may produce an Addisonian crisis. This occurs as a result of the excessive loss of salt.[6] The hypertrophy of the adrenal cortex seen in experimental hyperthyroidism may be hindered by injections of desoxycorticosterone. In the treatment of these cases, therefore, an effort should be made to treat adequately the hypofunction of the adrenal cortex.

Hyperthyroidism may be associated with a symmetric toxic goiter, a nodular toxic goiter or a mixed goiter, in which both pathologic states are found. The use of the term symmetric toxic goiter to replace the term exophthalmic goiter was proposed by the American Association for the Study of Goiter. The syndrome of the so-called exophthalmic goiter may be present without goiter and without exophthalmos.

The etiology of toxic goiter is not known. The antithyroid or goitrogenic drugs have been of value in the search for the solution of this problem. The metabolism of iodine within the gland is somewhat better understood with their use, although the mechanism of the conversion of inorganic iodine to the organic form is still obscure. The causal relationship of the thyrotropic hormone to toxic goiter has not been proved definitely in spite of the convincing experimental evidence obtained from both animals and human beings. The pathologic changes of spontaneous hyperthyroidism, both anatomic and functional, may be induced by injections of the thyrotropic hormone with the appearance of the classical symptoms. The symptoms of an existent toxic goiter will be intensified by the same hormone. There is as yet, however, no adequate explanation for the initiation of the spontaneous clinical syndrome of toxic goiter.

Werner[7] has summarized the evidence for the relationship of the thyrotropic hormone of the anterior pituitary to hyperthyroid states, as follows:

1. The thyrotropic hormone can cause hyperplasia of normal parenchymatous thyroid tissue and both normal thyroid tissue and adenomatous tissue can be stimulated to hyperfunctional activity by the thyrotropic hormone.

2. An antithyrotropic hormone or immunologic substance is produced in the body, which is antagonistic to thyrotropic hormone when the thyrotropic hormone is present in excessive amounts for more or less prolonged periods of time.

3. Adenomatous tissue in the nontoxic thyroid gland possesses all the potentialities for developing a hyperfunctioning state. Once it begins to hyperfunction it continues in this state.

4. Normal thyroid tissue does not possess an inherent potentiality to hyperfunction, but when stimulated to a hyperfunctional state it has a tendency to revert to normal function when abnormal stimulation is discontinued.

On the basis of these facts, an explanation may be offered for the three clinicopathologic types of goiter associated with hyperthyroidism.

1. The thyrotropic hormone may be present only in sufficient amounts to activate potentially hyperactive adenomatous thyroid tissue, thus producing the toxic nodular goiter. Anterior pituitary secretion may be disturbed in puberty, pregnancy, menopause and in primary pituitary disorders.

2. The thyrotropic hormone may be present only in sufficient amount to hyperstimulate normal thyroid tissue in the absence of adenomatous tissue. Typical hyperplastic goiter is produced with or without exophthalmos.

3. Thryrotropic hormone may hyperstimulate both normal thyroid tissue and adenomatous tissue, if present, to hyperplasia and hyperactivity. In these conditions both types of pathology will be found with a mixed clinical syndrome.

The pathologic changes in the symmetric toxic goiter are hyperplasia and hypertrophy with papillary projections into the acini, a decrease in the amount of colloid and its iodine, an increase in blood iodine with an increase excretion of iodine in the urine. The lymphoid tissue between the follicles is also increased. These changes are reversed with the administration of iodine though its pharmacologic mechanism is not known. The converted iodine may proceed through the cell in either the direction of the lumen of the follicle or toward the nucleus of the cell in the direction of the vascular apparatus. The requirements of iodine in the treatment of toxic goiter vary with the locality in which it is administered.

The symptoms and signs of toxic goiter are well known and require no elaboration at this time. The onset and progress of the symptoms associated with the above types of toxic goiter are usually sufficiently characteristic to distinguish the types. The appearance of the symptoms of nodular toxic goiter in the later decades of life, when arteriosclerotic changes have occurred, gives rise to cardiovascular dangers that are not commonly associated with the symmetric toxic goiter.

The treatment of toxic goiter is based essentially upon the operative removal of the gland after adequate preoperative procedures have been employed. The success of surgery in this disease depends upon the skill of the surgeon and, more particularly, upon the condition of the patient at the time of the operation. The selection of cases is a most important factor in obtaining satisfactory results. Surgery at the present time is the method of choice in the

treatment of these cases, although, it must be admitted that the removal of the gland is a step directed toward the end results of the disease and not at the yet unknown causative factor or factors.

The use of thiouracil in the preoperative preparation and in the treatment of toxic goiter has served to excite a new interest in the mechanism underlying the initiation and progress of this disease. The drug apparently acts by inhibiting the conversion of inorganic iodine to thyroxin and diiodotryosine, thus preventing the formation of the thyroid hormone. The block in the process of conversion probably occurs in the interference with the uptake of iodine by the gland, as has been demonstrated experimentally[8] by the administration of radioactive iodine. Potassium thiocyanate interrupts the conversion of the inorganic iodine at some point within the cell. A gland made goiterous by this drug shows a marked increase in the ability to take up radioactive iodine.

The reduction in hormone production, following the use of thiouracil, results in a decreased basal oxygen consumption and a decrease in the inhibiting effect of the hormone on the production or discharge of the thyrotropic hormone of the anterior lobe of the pituitary. The hyperplasia and hypertrophy of the gland with a reduction of alveolar colloid follows the stimulation by the thyrotropic hormone. These pathologic changes may be prevented by the use of thyroxin or dessicated thyroid. The administration of iodine is ineffective in preventing these changes in the experimental animals. Iodine is effective, however, in preventing the pathologic changes produced by the use of potassium thiocyanate.

The clinical use of the drug has been reported by several observers since the early reports of the MacKenzies[9] and Astwood in 1943.[10] All observers are in general accord on the indications for the use of the drug and all report similar results.

The reduction of the thyrotoxic symptoms appears within a few days after institution of treatment. Maximum improvement is noted in from three to seven weeks and continues during the sustained administration of the drug. The basal metabolism becomes normal in from two to seven weeks, usually on the basis of the allowance of one day for each per cent of the basal metabolic rate above normal. A recurrence of thyrotoxicosis may follow the discontinuance of the drug. This may occur at varying intervals but experience has shown that control of the toxic state may be regained by resuming the administration of the drug.

Williams and Clute,[11] in a large series of cases, observed that the administration of iodine previous to the use of thiouracil resulted in a delayed effect from the latter drug. The use of iodine preoperatively followed the control of thyrotoxicosis by thiouracil tends to produce less bleeding and less friability of the gland.

Thiouracil is of greatest value, perhaps, in those cases in which operation is contraindicated or inadvisable. It may be used preoperatively, however, and the evidence would seem to indicate that there is less operative reaction following its use. Patients have been continued on the drug for well over a year with normal basal metabolism, and with no evidence of the thyrotoxicosis or drug toxicity. The control of the thyrotoxicosis is satisfactory, and the patients are able to carry on with their normal routine of life.

Toxic manifestations of the drug may occur in hypersensitive individuals. These may take the form of an agranulocytosis[12] which may prove fatal, a febrile reaction, headaches, arthralgias, jaundice and leukopenia. The administration should be watched carefully at the onset to detect any evidence of toxicity. Immediate discontinuance of the drug, following the appearance of any of these signs, usually is followed by a rapid cessation of these disturbing and, at times, dangerous reactions.

The untoward reactions may be avoided by the use of an optimal dose of the drug. This dose may vary with each individual. The average dose of from 0.5 to 0.6 gm. daily seems adequate in controlling the symptoms of thyrotoxicosis. A reduction of the dose may be made as the activity of the gland decreases. A carrying dose of 0.1 gm. daily may be instituted when the basal metabolic rate is normal. This may be continued for an indefinite period.

Thiouracil may not prove to be the therapeutic answer to the problem of thyrotoxicosis, but the results obtained lead to the belief that it may serve as a valuable adjunct in the treatment of thyrotoxicosis, particularly in those cases in which operation is inadvisable. The experimental studies with this drug have produced evidence which has been valuable in a better understanding of the function of the thyroid gland and the interrelationship with the pituitary gland. The solution of this fascinating problem of hyperthyroidism may lie, perhaps, in a more complete knowledge of the extra thyroid factors that may initiate the thyrotoxic state. These factors may be controlled ultimately, by chemical or physical means, thus obviating the necessity for surgery which admittedly is directed toward the end results of this complex pathologic-physiologic process.

U. S. Naval Hospital

BIBLIOGRAPHY

1. Loeb, L., and Bassett, R. B.: Effect of Hormone of Anterior Pituitary on Thyroid Gland in the Guinea Pig, Proc. Soc. Exper. Biol. & Med. No. 860 (June) 1929.
2. Marine, David: Physiology and Principal Inter-relations of the Thyroid, J.A.M.A. **104**:2250 (June 22) 1935.
3. Uotila, U. U.: The Regulation of Thyrotropic Function by Thyroxin after Pituitary Stalk Section, Endocrinology **26**:29 (January) 1940.
4. Means, J. H.: Diseases of the Thyroid Gland, New England J. Med. **221**:820 (Nov. 23) 1939.
5. Stephens, D. J.: Chloride Excretion in Hypothyroidism, Proc. Soc. Exper. Biol. & Med. **43**:742 (April) 1940.
6. Means, J. H.: Hertz, Saul, and Lermon, Jacob: The Pituitary Type of Myxedema: or Simmonds' Disease Masquerading as Myxedema, Tr. A. Am. Physicians **55**:32, 1940.
7. Werner, August A.: Endocrinology, Clinical Application and Treatment, 2nd Edition, Lee and Febiger, 1942.
8. Rawson, Rulon W.: Tannheimer, John F., and Peacock, Wendell: The Uptake of Radioactive Iodine by the Thyroids of Rats Made Goiterous by Potassium Thiocyanate and by Thiouracil, Endocrinology **245**:253 (April) 1944.
9. MacKenzie, C. G., and MacKenzie, Julia B.: Effect of

Sulfonamides and Thioureas on the Thyroid Gland and Basal Metabolism, Endocrinology 32:185 (February) 1943.
10. Astwood, E. B.; Sullivan, J.; Bissell, A., and Tyslowitz R.: Endocrinology 32:210, 1943.
11. Williams, Robert H., and Clute, Howard M.: Thiouracil in the Treatment of Thyrotoxicosis, J.A.M.A. 128:65 (May 12) 1945.
12. Astwood, E. B.: Treatment of Hyperthyroidism with Thiourea and Thiouracil, J.A.M.A. 122:78 (May 8) 1943.

CASE REPORT OF BARNES HOSPITAL

CLINICAL AND POSTMORTEM RECORDS USED IN WEEKLY CLINICOPATHOLOGIC CONFERENCE AT BARNES HOSPITAL, ST. LOUIS

ROBERT J. GLASER, M.D., Editor

CASE 91

PRESENTATION OF CASE

W. M., a 41 year old white male, entered the Barnes Hospital for the first time on January 15 and was discharged on February 5, 1946.

Chief Complaint.—Abdominal pain.

Past History.—Other than occasional upper respiratory tract infection, the patient's health had been good. Nothing in the systemic review seemed relevant. He had worked at a dairy for fifteen years, then as an inspector in a small arms plant and, finally, in a clothes cleaning establishment for one month before the present illness. He contacted no unusual chemicals there.

Present Illness.—Four months prior to admission, the patient began to have intermittent abdominal pain which was described at first as a "drawing" sensation which seemed to center in the upper midabdomen and to extend down toward the umbilicus. This "drawing" sensation made his ribs sore. When he lay down, the character of the pain altered to a feeling of a heavy weight in the midabdomen. When he stood, the discomfort was sufficiently severe that he usually had to put his hand on his abdomen and exert upward pressure in order to obtain relief. The pain gradually increased, and occasionally extended posteriorly to the upper lumbar region. Soon it became fairly constant and was sufficiently severe at night to keep the patient awake. There were no associated gastrointestinal symptoms and his appetite remained good. One month after the onset of his symptoms he was studied at the Deaconess Hospital. A laparotomy was performed, and the appendix was removed. No abnormalities, other than a few intestinal adhesions, were found. The stomach, intestine, gallbladder, liver and pancreas were examined and said to be normal. Following the operation the patient was not relieved, and he was discharged three or four weeks later, having lost from fifteen to twenty pounds in weight during his hospital stay. He remained at home for a few weeks and then returned to the Deaconess Hospital where he was reexamined and told his pain was due to nervousness. It was suggested that he come to the Washington University psychiatric outpatient clinic, which he did, and from there he was sent into the Barnes Hospital.

Physical Examination.—Temperature was 37 C., pulse 80, respirations 18 and blood pressure 150/90. The patient appeared somewhat undernourished and was complaining of intractable abdominal pain. The pupils reacted normally. There was moderate narrowing of the arterioles in the fundi. The upper respiratory tract was within normal limits. A questionable lymph node was felt in the left supraclavicular region but none was found elsewhere. The lungs were clear throughout. The heart was not enlarged and the rhythm was regular. There was a blowing systolic murmur at the apex. The abdomen was scaphoid. There was tenderness and muscle guard in the epigastrium but no organs or masses were palpable. The extremities were normal.

Laboratory Findings on Entry.—Blood Count: red cells, 4,130,000; hemoglobin, 13 gms.; white cells, 8850; differential count: juvenile forms, 2 per cent; "stab" forms, 6 per cent; segmented forms, 60 per cent; lymphocytes, 30 per cent; monocytes, 2 per cent. Urinalysis: negative. Stool Examination: negative. Kahn Reaction: negative. Blood Chemistry: nonprotein nitrogen, 16 mg. per cent; total proteins, 6.5 gms. per cent; albumin, 4.1 gms. per cent; globulin, 2.2 gms. per cent; icterus index, 3; cephalin-cholesterol flocculation test, negative; bromsulfalein dye retention test, 32 per cent in 15 min., 0.4 per cent in 30 min.; prothrombin time, 100 per cent of normal; hippuric acid test, 45 per cent excretion of sodium benzoate. Electrocardiogram: normal. Roentgenogram of the Chest: The left leaf of the diaphragm was slightly elevated and straightened and the costophrenic angle was obliterated by adhesions from an old pleurisy. The cardiac silhouette and aorta were within normal limits, as were the hilus shadows and lung markings. Films of the lumbar and dorsal spine showed no changes and a gastrointestinal series was indeterminate.

Course in Hospital.—The patient's pain continued throughout his stay. After surgical and medical consultations, no diagnosis was established and it was felt that there was a large emotional element present; therefore, psychiatric consultation was requested. This study was difficult because of the patient's reluctance to discuss his problems. A variety of drugs was given and, symptomatically, none was effective. During his stay, further laboratory examinations revealed the following: gastric analysis, 5 units of free acid and 50 units of combined acid. The fasting blood sugar was 74 mg. per cent. The blood amylase was 164 units per cent. The sedimentation rate was 0.5 mm. per min. A lumbar puncture revealed normal dynamics. The spinal fluid findings included no cells, a normal protein, and negative Wassermann and colloidal gold tests. Cholecystograms showed an opaque shadow lying in the region of the gallbladder. This was considered to be a soft calcium stone. The basal metabolic rate was recorded as −2 and +12. A proctoscopic examination to a distance of 23 cm.

NEW SEARLE AMINOPHYLLIN SUPPOSITORIES



For more convenient and effective rectal administration of Aminophyllin,* Searle Research has produced

AMINOPHYLLIN SUPPOSICONES
(SEARLE BRAND OF AMINOPHYLLIN SUPPOSITORIES)

Differing from all other types of suppositories, Searle Aminophyllin Supposicones are molded with a new base material which liquefies rapidly in the rectum, permitting complete absorption of the Aminophyllin, but which remains *stable and solid at temperatures up to 130° F. outside the body.*

Searle Aminophyllin Supposicones are non-irritating to the rectal mucosa—require no anesthetic—are of proper size and shape for easy insertion and retention.
Each Aminophyllin Supposicone contains 500 mg. (7½ grs.) Searle Aminophyllin. Packaged in boxes of 12.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

*Searle Aminophyllin contains at least 80% of anhydrous theophyllin

Supposicones is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

revealed no abnormal findings except that external hemorrhoids were present. Gastroscopy was performed and a normal mucous membrane found. The patient was discharged, unimproved, and referred to the psychiatric clinic.

Second Hospital Admission.—February 14 to March 21, 1946.

Interval History.—The patient continued to have abdominal pain and nine days after discharge he was admitted to the McMillan Hospital on the psychiatric service. When first examined in the hospital, he was writhing in his chair, pressing one thigh against his abdomen, rubbing his abdomen and, occasionally, bursting into tears. He constantly demanded medicine to ease his pain. The physical examination remained unchanged from that on the previous admission. There were no abnormal neurologic findings.

Laboratory Findings on Entry.—Blood Count: red cells, 4,970,000; hemoglobin, 14.6 gms.; white cells, 12,200; differential count: within normal limits. Stool examination: guaiac test positive. The blood amylase was 188 units per cent. An insulin tolerance test was not revealing. An electroencephalogram was obtained but the record was unsatisfactory.

Course in Hospital.—During the early part of his hospitalization, the patient was given insulin therapy and allowed to remain in coma for about one half hour. His symptoms continued unabated and electric shock therapy was instituted. In all, he received six treatments and had a grand mal reaction to each. As a result of interviews with the patient and with his wife it was concluded that he had a mixed psychoneurosis with marked depressive features. During the hospital stay he was somewhat improved in that his pain, although still present, did not completely incapacitate him. He gained some weight and left the hospital to convalesce in the country. On April 15, 1946, the patient was admitted to the Jewish Hospital. The history there revealed that the abdominal pain had remained intense. The patient found that he was more comfortable lying on the right side with his legs flexed than in any other position. Nausea and vomiting had occurred at times, and blood was seen in the vomitus. His appetite gradually had been getting worse and, since the onset of the present illness, four months before, he had lost 40 pounds.

Physical Examination.—Temperature was 100 F., pulse 100, respirations 24 and blood pressure 110/75. The patient looked very ill and was apparently in great pain. He was pale, very thin and weak, but was conscious, alert and cooperative. The veins of both forearms were prominent as thickened, firm and tender cords. The remaining findings were confined to the abdomen, which was scaphoid and thin-walled. No visible peristalsis was observed. Palpation caused pain over the entire abdomen, more marked in the upper half and to the right of the midline. A mass was palpable in the epigastrium, extending to the right and 10 cm. below the costal margin in the midclavicular lines. It moved slightly with respiration and was thought to be the liver. The upper margin of the liver was percussed at the fourth intercostal space. The surface of the mass was smooth. The lower abdomen was somewhat full, but no fluid could be demonstrated. The spleen was not palpable. Rectal examination was negative except for external hemorrhoids. No lymph node involvement was made out.

Laboratory Data.—Blood Count: red cells, 2,640,000; hemoglobin, 8.3 gm.; white cells, 16,400; differential count: normal. The urine showed a trace of albumin and a few casts; the urobilinogen was 3+, and no bile was found. The fasting blood sugar was 99 mg. per cent, the nonprotein nitrogen, 26 mg. per cent, diastase 54 units per cent, cholesterol 253 mg. per cent, serum proteins 6.5 gm. per cent, albumin 3.5 gms., globulin 2.9 gms. The cephalin-cholesterol flocculation test was negative.

Course in Hospital.—The day following admission, one observer called attention to an enlarged node in the left supraclavicular fossa. This was removed for biopsy. The following report was made on the microscopic examination: "Section consists of a lymph node, the normal architecture of which has been destroyed by anaplastic wildly-growing sheets of epithelium, forming typical glands and undergoing extensive necrosis. The anaplastic tumor cells have irregularly staining nuclei, show frequent mitoses, and invade through the capsule of the lymph node." During his four days in the hospital the patient's temperature ranged between 99 and 102 F., and the pulse between 90 and 120. Pain was constantly present and free use of narcotics was made in an attempt to control it. He died on the ninth hospital day. On the day before death, he vomited "coffee ground" material; a guaiac test for occult blood was strongly positive.

CLINICAL DISCUSSION

Dr. Harry L. Alexander: This case presented a very interesting and difficult problem. The history indicates that the patient had symptoms four months before he came to this hospital; prior to and during his first admission, many studies, including an exploratory laparotomy, failed to establish a diagnosis which satisfactorily explained his chief complaint of abdominal pain. Thus, more and more consideration was given to the possibility that the pain was nonorganic in origin; on his second admission, the patient was studied on the psychiatric service in the McMillan Hospital. We are afforded an opportunity to discuss pain of nonorganic origin, and I should like to ask Dr. Gildea if intractable pain, in the absence of an organic lesion, is commonly encountered by the psychiatrist?

Dr. Margaret C. Gildea: Yes, particularly as a manifestation of the depressive state, and often in individuals like the one whose case we are discussing today. He was extraordinarily infantile in his emotional adjustment and in the organization of

his personality. His attitude was immature. The psychiatric history revealed that the patient was the youngest of twelve children; in his early years he was pampered constantly. He married a rather dominating woman, much like his mother; because his wife treated him as a child, the patient failed to accept a normal adult relationship, and the marriage was not successful. It is of great interest that the patient was devoted to horses and, indeed, bought a horse, despite violent objections from his wife; he acted toward it as most men do toward a mistress.

During one period of his illness his appetite was poor, he vomited, had abdominal pain, and lost 25 pounds. These facts in combination with his agitated state, led us to the conclusion that he was in a severe state of depression. It is noteworthy that carcinoma of the pancreas can cause a depressive state without causing very much pain. For example, a year ago we treated a man who was about 55 and who had a classical depression with retardation. He had a few gastrointestinal symptoms but they were not striking. Shortly after psychiatric treatment had been instituted he developed obvious metastases and died. At autopsy, the primary site was found to be in the pancreas.

Dr. Alexander: Do patients who have no organic illness have real or imagined pain?

Dr. Gildea: Individuals who have no organic lesion can have real pain. Pain of various types is a common feature of depressed states and of tension states.

Dr. Harold Scheff: Had this patient ever had an episode of pain prior to the laparotomy?

Dr. Gildea: That point was investigated very carefully because it was important in the psychiatric diagnosis. The only previous protracted illness that the patient had had was ten years before.

Dr. Alexander: Dr. Gildea, would you comment on psychotherapy in situations such as this?

Dr. Gildea: We use electric shock or some other safe form of shock therapy. Psychiatric treatment may relieve pain in patients like the one we are discussing.

Dr. Bruce Kenamore: Has not pain such as this patient described been attributed to infiltration of nerves sheaths by malignant cells?

Dr. Alexander: I believe that in carcinoma of the pancreas, which has been mentioned here as a possible diagnosis, such an explanation has been advanced.

Dr. W. Barry Wood, Jr.: Confirmatory histologic evidence is available.

Dr. Alexander: It is of interest that during the patient's first admission to Barnes Hospital and again on his admission to McMillan Hospital, a lymph node in the left supraclavicular space was described. Finally, in the Jewish Hospital, although not mentioned in the initial examination, it was noted on the day after entry; biopsy of the node led to the diagnosis of carcinoma. In attempting to establish the primary site, one must decide whether the tumor was retroperitoneal or intraperitoneal. Dr. Kenamore, would you comment?

Dr. Kenamore: The history and the absence of physical findings suggest that it was either retroperitoneal or in the posterior peritoneal space.

Dr. Alexander: The negative findings at the time of laparotomy and on the gastrointestinal series lend weight to the inference that this lesion was retroperitoneal. What retroperitoneal lesion is compatible with the signs and symptoms recorded in this case?

Dr. Scheff: Carcinoma of the pancreas, particularly of the body or tail is suggested. The type of pain is especially consistent with that diagnosis.

Dr. Alexander: Are there other points which favor a diagnosis of carcinoma of the body of the pancreas?

Dr. Scheff: This patient had phlebothrombosis, particularly involving the veins of the upper extremities. According to Sproul,[1] phlebothrombosis occurs in a rather high percentage of cases of carcinoma of the body and tail of the pancreas.

Dr. Alexander: Dr. Sale, you have been interested in this subject. Would you like to comment?

Dr. Llewellyn Sale, Sr.: Phlebothrombosis is described actually in cases of various abdominal carcinomata, but is relatively much more frequent in carcinoma of the body and tail of the pancreas. When thromboses involve the deeper veins, carcinoma of the body or tail of the pancreas is particularly likely. One additional feature in this case which would suggest carcinoma of the body or tail is the absence of jaundice which is so common in carcinoma of the head of the pancreas.

Dr. Alexander: What is the incidence of venous thromboses in carcinoma of the pancreas as compared to other abdominal carcinomata?

Dr. Scheff: In Sproul's series single thromboses were noted in 29.7 per cent of all cases of pancreatic carcinoma and multiple thromboses in 17 per cent of all cases. Further analysis showed that a single venous thrombosis occurred in 16.1 per cent of carcinomas involving the head of the pancreas; multiple thromboses were present in 9.7 per cent of the cases. In carcinoma of the body or tail of the pancreas, the incidence of multiple thromboses was 31.3 per cent. Multiple thromboses were associated with carcinoma of the lung in 3.5 per cent of cases. Multiple thromboses were not found with carcinoma of the stomach, but single thromboses were reported in 16.6 per cent of the cases.

Dr. Kenamore: Is there any explanation for the development of these thrombi?

Dr. Sale: Sproul relates them to activity of the pancreatic enzymes, especially one with a lipolytic action.

Dr. Wood: Dr. Alexander, the fact that occult blood was noted in the stool early in the course of the illness seems to me inconsistent with a diagno-

1. Sproul, E. E.: Carcinoma and Venous Thrombosis, Am. J. Cancer 34:566-584, 1938.

sis of carcinoma of the pancreas. Further, in the final stages the patient vomited coffee-ground material. These observations suggest that either the primary lesion or a metastasis must have been intraperitoneal.

Dr. Scheff: It is possible that metastases to the liver may have occasioned sufficient liver cell damage to lower the prothrombin time to a level at which hemorrhage occurred.

Dr. Wood: The prothrombin time shortly before the first positive stool was 100 per cent of normal.

Dr. Robert J. Glaser: At the time of the proctoscopy, external hemorrhoids were found; in view of the negative gastrointestinal series and gastroscopic examination, it was felt that the guaiac positive stools were explained by bleeding hemorrhoids.

Dr. Alexander: They do not, however, explain the coffee-ground vomitus.

Dr. Kenamore: A small carcinoma on the posterior wall of the stomach may be missed for there is an area which is a gastroscopic and radiographic "blind spot." It also has been observed that carcinomas of the pancreas may extend directly to involve the wall of the stomach. In either instance, there may be bleeding.

Dr. Alexander: A mesenteric venous thrombosis should also be mentioned as a cause of gastrointestinal bleeding.

Dr. Wood: I should like to ask Dr. Duden what the statistics are in regard to the relationship between a Virchow's node and the site of the primary carcinoma.

Dr. Charles W. Duden: Virchow's nodes are found in all types of intra-abdominal malignancy, but are most commonly associated with gastric carcinoma; it must be remembered, however, that gastric carcinoma is the most frequent of the intra-abdominal carcinomas.

Dr. Wood: Given a Virchow's node, one could not predict the primary site of the malignancy on a statistical basis?

Dr. Duden: No.

Dr. Alexander: The biopsy report indicated that this patient's tumor formed glands. It was thus an adenocarcinoma. Dr. Wilson, would you comment on the pain of carcinoma of the pancreas?

Dr. Keith S. Wilson: Pain, usually in the back, occurs in 86 per cent of patients with carcinoma of the pancreas. The pain may simulate cholecystitis or can radiate to various regions of the trunk.

Dr. Alexander: Does the patient's posture or position influence the pain?

Dr. Wilson: Patients may obtain relief only by assuming bizarre positions.

Dr. Alexander: It should be emphasized that pain in the back, made worse by stretching, is a feature of many cases of carcinoma of the body of the pancreas. It would seem that the consensus of opinion is in favor of that diagnosis in this case.

FINAL ANATOMICAL DIAGNOSIS*

Adenocarcinoma of the pancreas at the junction of the head and body.

Metastatic carcinoma in the liver, peritoneum over the mesentery, diaphragm, wall of ileum, capsule of spleen and kidney; peripancreatic, mesenteric and cervical lymph nodes.

Fibrosis of the body and tail of the pancreas, advanced.

Invasion of the walls of the splenic and mesenteric veins by carcinoma with partial obstruction of the veins.

Thrombus partially occluding the portal vein.

Altered blood in the stomach and intestine.

Thrombi in the cephalic veins of the arms and in the veins of the prostatic plexus.

Thrombus in a tertiary branch of the pulmonary artery.

PATHOLOGIC DISCUSSION

Dr. Margaret G. Smith: Figure 1 shows a section taken from the main tumor mass which arose

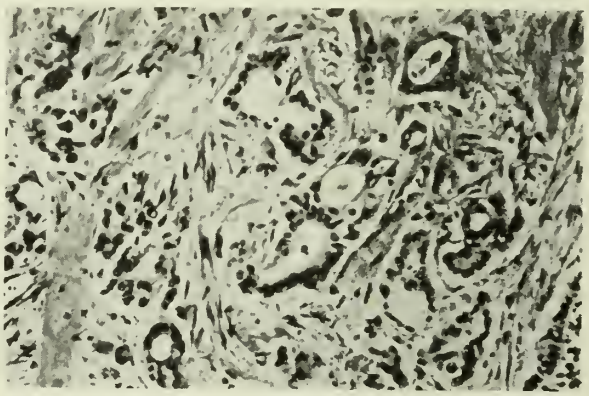


Fig. 1.

at the junction of the head and body of the pancreas; the arrangement of cells is that of an adenocarcinoma. The same cellular arrangement was

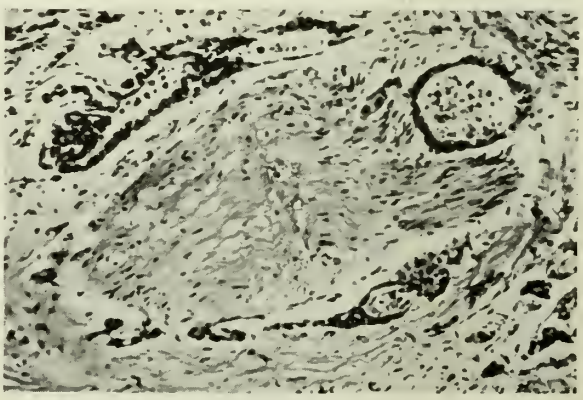


Fig. 2.

* This is not the printer's or the proofreader's error. It is to assist the reader who wants to make up his own mind about the diagnosis but whose curiosity is too consuming.

Information! —ABOUT THE NEW



Campbell's STRAINED BABY SOUPS

Q. What are the ingredients in Campbell's Strained Baby Soups?

A. Campbell's use carefully selected meats, cereals and those vegetables scientifically recognized as having the most desirable nutritive qualities. All the food properties are natural. Because Campbell's are accustomed to purchasing only selected meats and vegetables, the best is assured for Campbell's Strained Baby Soups.

Q. What about vitamin and mineral retention?

A. The latest scientific information has been drawn upon in the development of a cooking method to insure the effective conservation of vitamins and retention of minerals.

Q. When should Baby be started on strained soups?

A. Campbell's Strained Baby Soups can be started as early as any strained baby foods. Depending upon the baby, pediatricians recommend beginning between the ages of three and six months.

Q. What about the flavor of Campbell's Strained Baby Soups?

A. Every mother wants her baby's food to be palatable. Campbell's preparation and cooking methods have been devised to retain natural flavors insofar as possible. Babies develop food preferences early, accept some foods, reject others. Their acceptance of Campbell's Strained Baby Soups is indicated by the increasing demand for these soups wherever they have been introduced.

A comprehensive analysis of each soup may be had upon application to Campbell Soup Company, Camden, New Jersey.

5 KINDS:

CHICKEN
BEEF
LAMB
LIVER
VEGETABLE

All in Glass Jars



Campbell's Strained Baby Soups represent fine quality . . . in ingredients . . . in care and method of cooking . . . in retention of minerals and conservation of vitamins . . . and in good flavor. Every resource of Campbell's Kitchens is devoted to that aim.



LOOK FOR THE RED-AND-WHITE LABEL

noted in sections taken from the metastases. There was an increased amount of fibrous connective tissue in the pancreas. In some areas, the tumor cells contained vacuoles—these represent mucus secretion by the cells.

In figure 2, a section of a nerve is shown; tumor cells are seen invading the nerve within its sheath. It is felt that this finding affords an adequate organic basis for the patient's severe, intractable pain.

A section taken from the tail of the pancreas showed atrophy of the acinar structures and a great proliferation of connective tissues. It is of interest to note that although atrophy and fibrosis of the pancreas usually accompany obstruction of the pancreatic ducts, the Islands of Langerhans are not involved; indeed, they are often larger and as a result of shrinkage of the mass of tissue, may appear more numerous than in the normal pancreas.

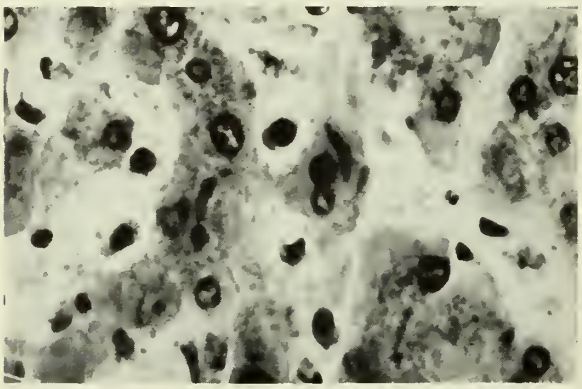


Fig. 3.

In the gross, there was no obstruction of the large bile ducts and most of the liver was normal in color. There were, however, some areas, particularly those in relation to multiple small tumor nodules, where the liver was bile stained. A section (fig. 3) taken from such a lesion in the center of a lobule shows the bile canaliculi filled with inspissated bile.

In regard to the multiple thromboses, it should be pointed out that the tumors which have been described as occurring in association with venous thromboses are, like the tumor in this case, mucus-secreting adenocarcinomas. Some of the thrombi found in this case can be explained on the basis of local invasion; the thrombus in the portal vein formed just above the orifices of the mesenteric and splenic veins, both of which were markedly narrowed by tumor invading their walls. Further, pulmonary thrombi are common in patients who have chronic debilitating illnesses or who have been in bed for protracted periods, regardless of the etiology of the disease. Thrombi in the prostatic plexus are likewise not uncommon. The venous thromboses in the arms, however, cannot be explained by any of the preceding factors, and substantiate the observations of Sproul and others. The source of the blood in the stomach and intestine at the time of autopsy was not found; no bleeding areas or varices could be demonstrated.

Dr. Wood: Although the diagnosis was not made definitely while the patient was on the medical wards, it is of interest that when Dr. Alexander saw the patient on ward rounds, a note was made stating that he felt that the pain was probably organic in origin and suggested carcinoma of the pancreas and retroperitoneal sarcoma as possible causes. Further, the psychiatry intern who saw the patient examined him carefully and made the following note: ". . . there is a hard, palpable lymph node in the left supraclavicular space. This could be a Virchow's node." Apparently sufficient attention was not paid to this finding. If the correct diagnosis had been made originally, Dr. Gildea, would you still have instituted psychotherapy?

Dr. Gildea: I doubt very much if electric shock treatment would have been given, but I think insulin shock therapy would have been used.

SPECIAL ARTICLE

THE PERSONALITY OF WILLIAM BEAUMONT

ROBERT E. SCHLUETER, M.D.
ST. LOUIS

Born in Lebanon, Connecticut, on November 21, 1785, little is known about William Beaumont's early life except that he received an ordinary Connecticut common school education. That was undoubtedly better than the average in the America of that day because then, as for some years before and thereafter, Connecticut furnished most of the teachers for the other Eastern states. At a patriotic demonstration in 1795, perhaps it was a Fourth of July celebration, the young Beaumont dared his playmates to stand as close as he to a cannon when it was discharged. That venture is said to have damaged his eardrums and left him hard of hearing and, finally resulted in almost complete deafness in the latter years of his life when he usually touched his teeth to the piano when his daughter played, so as to hear the music by bone conduction. Little was the likelihood then that another shot would be fired many years later in a northern trading company's store and provide the opportunity for him to "blaze a trail beyond the frontier of knowledge."

While he was growing into manhood he conformed to the wishes of his father, a prosperous Connecticut farmer, by working for him, at the same time learning to adapt himself for the rough life and hardships at the edge of civilization. This parental control was obediently tolerated, though it was not to his liking, until the youth attained his

Address given at the Memorial Day Pilgrimage to William Beaumont's grave by Lloyd R. Boutwell Post No. 136, American Legion, on May 30, 1946.

majority in November 1806. He spent the Christmas holiday season within the family circle at Lebanon, but was probably preparing to start out soon thereafter to keep what Harvey Cushing called his "rendezvous with fame."

Early in January 1807 he left Lebanon in a one horse cutter containing a barrel of cider (most likely of the hard variety) and plyed his way in slow stages northwestward over the snows of Connecticut, Massachusetts and Vermont. He started out with one hundred dollars of hard-earned money but needed to recoup his resources by the time he reached the village of Champlain in the State of New York, where one of his uncles lived at the time. There he obtained employment as a schoolteacher, tending store in his spare time, but also "reading medicine" from medical books which were borrowed from Dr. Seth Pomeroy of Burlington, Vermont. In December 1807 he had sixty-odd pupils, thought the prospects were "more encouraging than they were in Connecticut" and desired to remain unless his parents needed him for their "ease, happiness and satisfaction." When taunted about having become a Federalist he responded with: "Sooner might they move the everlasting hills than to bribe my integrity, waver my faith, shake my belief or divert my course from the polar star of Republicanism while reason holds her empire over the province of my intellect." In the summer of 1808 he wrote that he was "in constant employment with scarce time to unbend his mind at night." In a letter to his younger brother, Abel, he gave the following advice in characteristic language of the period: "Let virtue, truth and honesty be your planetary guide, temperance, justice, fortitude and prudence your cardinal points, faith, hope and charity your horizon, philanthropy, benevolence, friendship and philosophy your atmosphere and the elements of life will be smooth, transparent and pleasant, gently gliding over your imagination like the eastern morning breeze across the swelling field of wheat."

After about three years as a pedagog in Champlain he had saved enough money to pay a fee to Dr. Benjamin Chandler of St. Albans, Vermont, for two years' instruction as an apprentice medical student in the doctor's office. Dr. Chandler had a large practice and was "most skillful in his medical practice and notably in surgery," and Beaumont had the additional advantage of having the doctor's son as a fellow-student. In a note book, now part of the collection of manuscripts in Washington University School of Medicine, one finds recorded some of his experiences during his apprenticeship. Among the case records, formulae and prescriptions there are several quotations, a couple of which deserve repetition here because they certainly had a distinct influence on the later behavior of the young medico who wrote them where he could read them over and over again.

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
BENJAMIN A. RUSKIN, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.
E. MADISON PAINE, M.D.
H. GLADYS SPEAR, M.D.
ARTHUR J. PATEK, M.D.

G. H. SCHROEDER, *Business Manager*

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



SPECIAL ACCIDENT and SICKNESS PLAN
Approved and Adopted for the Members by
MISSOURI STATE MEDICAL ASSOCIATION

Special Enrollment Privilege

August 1st, 1946, enrollment will be reopened for a period of sixty days. The plan is available to all individual members desiring it, in active practice, up to age 70, who have not previously applied, regardless of past physical history, during the enrollment period only. No examination is required.

Eligible individuals age 65 to 69 (also females) will be accepted only under Plans 1 or 2.

Non-Cancellable Feature

The individual policy is non-cancellable by the Company except for:

A. Non-payment of Premium.
B. When the insured becomes seventy years of age.
C. If the insured retires or ceases to be actively engaged in his profession.
D. If the insured ceases to be an active member of his organization.

Plans Available

	Accident and Sickness Benefits	Accidental Death and Dismemberment Coverage	Semi-Annual Premium	Annual Premium
Plan 1	$20.00 Weekly	$1,000 Principal Sum	$15.50	$30.00
Plan 2	25.00 Weekly	1,000 Principal Sum	19.50	38.00
Plan 3	30.00 Weekly	1,000 Principal Sum	23.00	45.00
Plan 4	40.00 Weekly	1,000 Principal Sum	30.50	60.00
Plan 5	50.00 Weekly	1,000 Principal Sum	37.50	74.00

Note: It is possible to purchase increased Principal Sum at an Additional Premium of $2.00 per thousand, not to exceed a total of $5,000 Principal Sum Insurance.

Outstanding Advantages

Broad Insuring Clause
Full Coverage to Age 70
No House Confinement Required
No Future Reduction in Benefits
No Future Increase in Premium Cost
This Policy cannot be ridered or restricted after issuance
Other Insurance does not affect these benefits
Complete Sickness Protection
Prompt Local Claim Service
World Wide Coverage
Low Cost

This plan offers sound protection unavailable through the individual Insurance Policy

Underwriters

Metropolitan Casualty Insurance Company, New York, N. Y.
(A "Loyalty Group" Company)

GENERAL AGENTS:

Eggert Carroll Schroeder Agency
111 N. Fourth St., St. Louis, Mo.

Altman Singleton & Co.
Land Bank Bldg., Kansas City, Mo.

These two are: "Of all the lessons which a young man entering upon the profession of medicine needs to learn, this is perhaps the first—that he should resist the fascination of doctrines and hypotheses till he have won the privilege of such studies by honest labour and faithful pursuit of real and useful knowledge" and "the mind that can amuse itself with the love-sick trash of most modern composition of novel reading seeks enjoyment beneath the level of a rational being." These and other precepts which the young medical tyro of twenty-six winters laid down for himself to follow seem to have pervaded his life for the next forty years.

The young Beaumont had become a free-mason and during his sojourn at St. Albans he acted as scribe in the Royal Arch Chapter there. From all this one can see that he was not given to frivolous pastime during his leisure and had even then, at least, a leaning toward the serious and earnest phases of life during periods of relaxation or recreation.

When he had completed his two years with Dr. Chandler he was granted a license by examination from the Third Medical Society of the State of Vermont which entitled him to practice medicine. Soon thereafter he entered the United States Army as a Surgeon's Mate and served in the War of 1812 in or near Plattsburgh, New York, and continued the entries in the two notebooks which were started during his stay with Dr. Chandler. By that time he had contracted the habit of recording his experiences, which now make it possible to estimate his character and personality.

By the time hostilities in that strife ceased he had made acquaintances and friendships in Plattsburgh which led him to endeavor to establish himself in private practice in that town. That venture, however, was not a success for, after about seven years, he satisfied all the claims of his creditors by selling everything negotiable and returned to the Army with the commissioned rank of Assistant Surgeon. While he was practicing in Plattsburgh the following advertisement appeared in the Republican, a local newspaper:

> The person who took a small glass sand box from the office of Doct. Beaumont is requested to return it, and save their reputation as it is well ascertained who the offender is.

It is not known whether or not anybody's reputation was saved.

Beaumont was sent to Fort Mackinac from whence he returned to Plattsburgh in 1821 to marry Mrs. Deborah Platt, the widowed daughter of Israel Green, the town's most prominent citizen and inn keeper. Returning to Fort Mackinac with his bride he was stationed there on June 6, 1822, when Alexis St. Martin, a young French Canadian, was accidentally shot in the upper abdomen in the American Fur Company's store. Beaumont was called to attend him and with the doctor's careful and continuous attention he recovered but was left with a hole in the front of his stomach. Through this opening and because of it William Beaumont was able to make those experiments and observations that resulted in the publication of his famous book in 1833, which is one of the great medical classics of all times. It was sold at $2.00 but now a well preserved copy will bring more than $100.00. For this work the honorary title of M.D. was conferred on him by Columbian University (now George Washington University) of Washington, D. C.

Beaumont jotted down his reflections and ideas when the "spirit moved him" without regard as to how they might be received. What he thought was an inhuman attitude by the people of Mackinac toward Alexis St. Martin, who was a pauper, prompted him to write a soliloquy called "Charity." In part it ran as follows: "Happy are they who die in the poor-house of this place, and three times doubly happy are the people of the Borough who reluctantly contribute to their wretched support while living upon public charity. Were I reduced to the necessity of existing upon the charity of this Borough, I would commit suicide without scruple or hesitation . . . !"

On one occasion he testified at the trial by court-martial of an army officer and upon his testimony the latter was found guilty of malingering. The sentence, however, was reversed by President John Quincy Adams, whereupon Beaumont issued a verbose statement of four thousand words in which he stated:

> My professional opinion was shaken, my conduct as a witness and my disposition as a medical advisor severely animadverted upon by the President of the United States, by whose veto and a few waves of his pen the sentence of an honorable court-martial is made void.

Thus he was then, as always, courageous and fearless when convinced that he was right, even if he knew that he would be ignored. It might also be of interest to note that shortly after that statement President Adams promoted him from Assistant Surgeon to the rank of Surgeon. The above and similar vituperative written statements by Beaumont did little or no real good but provided at least a "safety valve for his pent-up feeling" and must have given him a degree of satisfaction.

Toward the unreliable, deceiving, ungrateful, illiterate sot, Alexis St. Martin, he seems to have had unlimited patience and always treated him with kindness and consideration, although he was often disappointed and finally actually abandoned by him upon whom he had heaped so many benefactions. During the last twenty years of his life Beaumont tried repeatedly to bring St. Martin back from Canada for more "experiments and observations," and lived in hopes until he passed away in St. Louis on April 25, 1853.

In St. Louis Beaumont was in command of the Army Medical Supply Depot and could practice medicine among the civilian population when it

did not interfere with his official duties so he soon had a considerable private practice. In fact, his income from that source was quite large, but he still greatly appreciated and enjoyed his Army appointment. When in 1839 he was ordered to duty in Florida by an unfriendly Surgeon General, he demurred and threatened to resign; and, when his resignation was accepted, resorted to various means to remain in St. Louis, as well as in the United States Army and decided to fight it out to the bitter end. Finally, when his army pay was stopped he denounced the "weak, waspish and willful head of the Medical Department" and was proud to have the "privilege of detesting the man, the motives and mind from which such egregious folly, parsimony and injustice could emanate and be promulgated."

He then wrote a statement to Dr. DeCamp, the Post Surgeon at Jefferson Barracks, which concluded with:

> Congratulating myself upon having escaped service under the present Chief of the Medical Dept., I sincerely commiserate my associates in the Army who remain subject to his caprice and tyranny, the natural fruits of ignorance and vanity.

It is lamentable that such vituperation and invective accompanied the abrupt and unpleasant termination of the military career of a man who is now known as one of the most famous army surgeons.

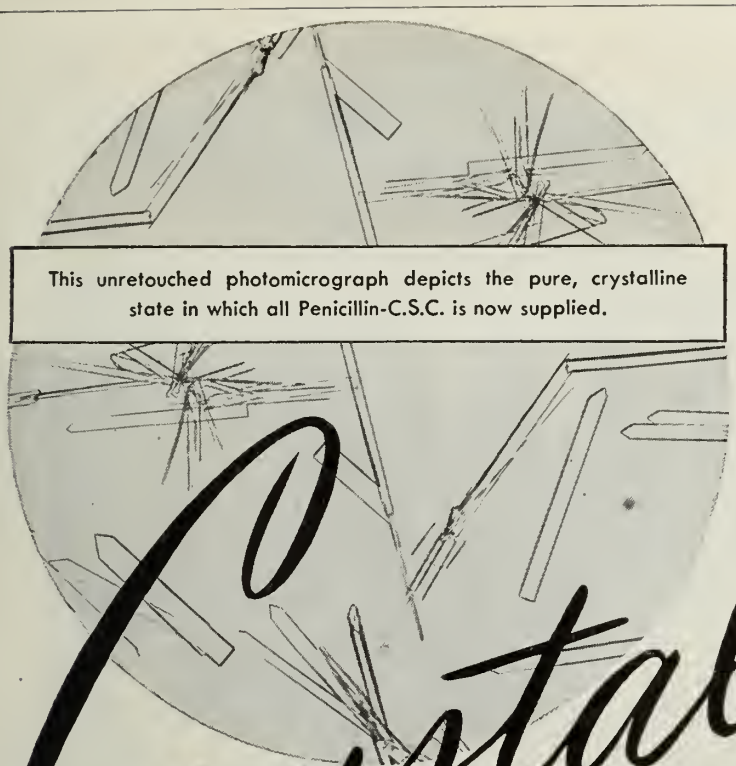
The location of William Beaumont in St. Louis as a member of the local medical profession was evidently responsible for founding the first Medical Society in Missouri and shortly thereafter for the first medical college west of the Mississippi River, in which he was Professor of Surgery, yet, he found so much bickering and petulance between the factions of the local medical profession that he was not too pleased when he was elected President of the Medical Society for the year 1841, when he was not even present at the meeting. In his inaugural address one finds the following:

> And here allow me to inquire, have not falsehood and misrepresentations been propagated without, and malicious charges and prosecutions been attempted within, the Society against honorable members without their knowledge and in their absence? . . . Have not our records been poluted with false entries by a Recording Secretary and unauthorized interpolations by another member; . . . Have we not the degrading instance in this city of medical men, claiming to be respectible in the profession, conspiring to afford collusive testimony to the public tribunal, discreditable and damning even to themselves . . . ?

Thus it can be seen that he was never at a loss for words to express his disdain for those whom he disliked.

When invited to attend the first meeting of what is now the American Medical Association, by Dr. John McCall, of Utica, New York, he declined and gave his reasons in a long letter which contained the statement:





This unretouched photomicrograph depicts the pure, crystalline state in which all Penicillin-C.S.C. is now supplied.

SYMBOL OF PURITY

Crystalline PENICILLIN SODIUM-C.S.C.

As a result of special processes of purification and crystallization, all Penicillin-C.S.C. is now supplied in the form of the highly purified, heat-stable Crystalline Sodium Salt of Penicillin-C.S.C.

Well Tolerated Subcutaneously

In the crystalline state Penicillin Sodium-C.S.C. is so pure that it can be administered subcutaneously even in large doses with virtually no pain or danger of untoward reactions due to impurities.

No Refrigeration Required

Crystalline Penicillin Sodium-C.S.C. is so heat-stable that it can be kept at room temperatures, virtually indefinitely without losing its potency.* It can now be carried in the physician's bag or stored on the pharmacy shelf. No longer need the physician wait until the patient can be hospitalized or until refrigerated penicillin can be obtained from the nearest depot.

*CAUTION: Once in solution, however, penicillin still requires refrigeration.

Optimal Therapeutic Activity

Because of its high potency per milligram, Crystalline Penicillin Sodium-C.S.C. exerts optimal therapeutic activity. A recent report shows the advantage of highly potent preparations.[1]

Potency Clearly Stated on Label

The high state of purification achieved in Crystalline Penicillin Sodium-C.S.C. is indicated by *its high potency per milligram*. The number of units per milligram is stated on each vial, thus enabling the physician to know the degree of purification of the penicillin he is using.

1"The potency of the penicillin undoubtedly affected the results. The first 15 patients, all treated with the same batch of penicillin, were cured. The next 7 patients were treated with the same dosage of a different batch of penicillin. Five of these 7 were not cured. Assays of penicillin used for these 7 patients showed it to be of reduced potency." Trumper, M., and Thompson, G. J.: Prolonging the Effects of Penicillin by Chilling, J.A.M.A. *130*: 628 (March 9) 1946.



Crystalline Penicillin Sodium-C.S.C. is available in serum-type vials containing 100,000, 200,000, or 500,000 units.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

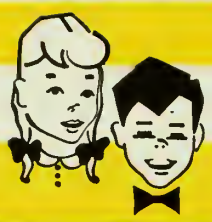
Penicillin-C.S.C. is accepted by the Council on Pharmacy and Chemistry of the American Medical Association

PHARMACEUTICAL DIVISION

COMMERCIAL SOLVENTS *Corporation*

CSC

17 East 42nd Street New York 17, N. Y.

IN A RECENT STUDY OF 512  CHILDREN *



Those receiving no medication showed an increase in the incidence of dental caries of 65 per cent. **65%**



Those receiving tablets of calcium fluoride alone showed an increase of 32 per cent. **32%**

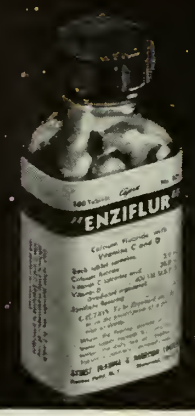


Those receiving a combination of calcium fluoride with vitamins C and D ("ENZIFLUR" Tablets) showed an increase of only 15 per cent. **15%**

"ENZIFLUR"

Reg. U. S. Pat. Off.

TABLETS
(Lozenges)



Each lozenge provides:

Calcium fluoride	2.0 mg.
Vitamin C (ascarbic acid)	30.0 mg.
Vitamin D (irradiated ergasteral)	400 I.U. U.S.P. XII

IMPORTANT: "ENZIFLUR" Lozenges should be allowed to dissolve slowly in the mouth, thus bringing the surfaces of the teeth in contact with the fluorine-bearing saliva.

AYERST, McKENNA & HARRISON Limited
22 East 40th Street, New York 16, N. Y.

Ayerst

*Strean, L. P., Beaudet, J. P.: New York State J. Med. *45*:2183 (Oct. 15) 1945.

I believe some 15 or 20, or more, were elected to represent the faculty of this city. Perhaps they will not attend "in propia persona," but you will doubtless have a specimen of the variety of professional talent and disposition of our medical community; the honorable high-minded and nobly aspiring young minds, radiant with vanity but not deficient in sound sense and professional skill and acquirements; the invidious, jealous and obsolescent minds; the egregiously egotistical and ignorant blockheads and dunces; some mean and vindictive, and others on a descending scale even down to the very bottom of baseness and rascality.

One sees that the local physicians did not rise in his estimation in the five years following his administration as president of the medical society. He probably was caught in the feud between the faculties of the two medical colleges which were established after the first medical department of St. Louis University, in which Beaumont was Professor of Surgery, became extinct. That enmity even continued on into the early decades of the twentieth century but did not hinder the onward march of medical progress in the "Mound City"; yet, the sensitive nature of William Beaumont felt its implications too keenly.

In January 1850 his very good friend, J. H. Freligh, requested him to consult with a homeopathic physician. This was politely declined by the following note:

Yours, Henry, of this morning, was recd. and kindly appreciated. No appreciable offense felt at the course you have taken for the rescue of your infant. But your reason and sense of propriety will excuse me for declining your request of associating my professional character and reputation with the infinitesimal part of nothing, alias Homeopathy, Quackery, Humbuggery, etc. by continuing "my usual attendance" at present.
Jan.21/50 Yrs. Respectfully, Wm. Beaumont

That was before the homeopaths had become liberal enough for regular physicians to meet them on common ground.

He assumed a tranquil attitude toward the inevitable infirmities of age, at the same time exhibiting a calm satisfaction that he had made good use of his allotted span of life, while also giving a beautiful expression to his domestic happiness in this "symphony" written a short time before the death which he felt approaching:

Myself and wife, not unlike "John Anderson, my Jo," have climbed the hill o'life togither, and many a canty day we've had wi' one anither. But now we maun totter down life's ebbing wane in peaceful quiet ease and compitence, with just so much selfishness and social sympathy as to be satisfied with ourselves, our children and friends, caring little for the formalities, follies and fashions of the present age, the bustling turmoils, vain shows, pride and pageantry of modern society, or the jealousies and envy of mean or malicious, sure of rectitude of purpose and unconscious of wrong intentions to the injury of any human being, boastful of nothing, cheerfully submissive to the duress of fate, the freaks of fortune or the last fiat of nature. Come when it may, we only ask God's blessings on our "frosty brows" and hand in hand we'll go and sleep together.

Mrs. Beaumont survived him for nearly seventeen years, and died on January 23, 1870. They "sleep together" side by side here in Bellfontaine Cemetery. Two marble headstones of like design mark their graves to which sacred medical shrine this group has come to pay respects on this Memorial Day.

Less than two months before his death Dr. Beaumont slipped on an ice-covered outside stair and struck his head. That fall dazed him severely so that he expected dire consequences from it, so, with the assistance of his son, he arranged his business affairs, which were quite extensive for a physician for that period. He continued to practice his profession and when his family and intimate friends advised him to spare himself said:

Don't say a word about my health and strength; both will hold out as long as I shall need them. Now we must work, not bemoan.

A carbuncle developed on the back of his neck; and, in his already weakened condition, he succumbed to that affliction in his sixty-eighth year. Thus his prognosis of his own condition proved to have been both rational and accurate.

The Rev. Dr. William Greenleaf Eliot, Jr., who founded Eliot Seminary, now Washington University, and who was secretary of the faculty in the medical school of which Beaumont was Professor of Surgery, was intimately acquainted with him. Dr. Eliot said:

He is shown to be direct, honest, reliable, forthright on occasion, intolerant of dishonesty and hypocracy, but compassionate, merciful, and resourceful; a man of physical bravery who gave ground to none, but entered in his diary the lamentable pleadings of the wounded and dying in battle; always first in his profession, prominent in his city, unsparing of self in its plague, identified with his environment and carrying his ideals to fruition while he lived and leaving a large and rich legacy for those after him. Hippocrates could have done no better.

The famous Philadelphia surgeon, Samuel D. Gross, wrote in his Autobiography:

I found in Dr. Beaumont an agreeable gentleman, suave and interesting in conversation, with great enthusiasm for his profession, and admiration for its successful cultivators. The only thing that marred the pleasure of this and other interviews was his deafness, which compelled him to use an ear-trumpet.

Perhaps the best and quite succinct description of his character and personal attributes was presented shortly after his death by his very close friend and colleague, Dr. Thomas Rayburn, who stated:

Dr. Beaumont possessed great firmness and determination of purpose; difficulties which would have discouraged most men he never allowed to turn him from his course. These he did not attempt to evade, but to meet and overcome. He possessed more than any man I ever knew a knowledge (almost intuitive) of human character. You might have introduced him to twenty persons in a day, all strangers to him, and he would have given you an accurate estimate of the character of each, his peculiar traits, disposition, etc., and not a few would receive some appropriate soubriquet from him. He was gifted with strong natural powers, which, working upon an extensive experience in life, resulted in a species of natural sagacity, which,

as I suppose, was something peculiar to him, and not to be attained by any course of study. His temperament was ardent, but never got the better of his instructed and disciplined judgment, and, whenever or however employed, he always adopted the most judicious means of attaining ends that were always honorable. In the sick-room he was a model of patience and kindness; his intuitive perceptions, guiding a pure benevolence, never failed to inspire confidence, and thus he belonged to that class of physicians whose very presence affords nature a sensible relief.

Much more could be said about this great man who took life seriously and surely must have been extremely satisfied with the good use he made of his time. William Beaumont was intensely human in all respects, having some faults and many virtues. He was a devoted husband and a good father, never permitting or indulging in light humor or flippant behavior. Above all, his contribution to medical science has stood the test of time for more than one hundred and thirteen years, because he possessed the ability of making the best of an opportunity, saw things as they were and recorded correctly what he saw.

508 N. Grand Ave.

BIBLIOGRAPHY

1. Beaumont, William: Experiments and Observations on the Gastric Juice and the Physiology of Digestion, Plattsburgh, Printed by F. P. Allen, 1833.
2. Myer, Jesse S.: Life and Letters of Dr. William Beaumont, St. Louis, C. V. Mosby Company, 1912.
3. Osler, William: William Beaumont—A Pioneer American Physiologist, J. A. M. A. (Nov. 15) 1902.
4. Patterson, Robert U.: William Beaumont as an Army Officer, Bull. New York Acad. Med. **9**:10 (October) 1933.
5. Cushing, Harvey: William Beaumont's Rendezvous with Fame, Yale J. Biol. & Med. **8**:113-116, 1935.
6. Houghton, Harris A.: Dr. William Beaumont—His Life and Associations in Plattsburgh, N. Y., Bull. New York Acad. Med. **7**:287-301 (April) 1931.
7. Throop, George R.: Address at William Beaumont's Grave, Bull. St. Louis Med. Soc. **32**:12 (December 3) 1937.
8. Gross, Samuel D.: Autobiography, Philadelphia, W. B. Saunders Company, 1893.
9. Luckhardt, Arno B.: Dr. William Beaumont and "The Medical Epic of the Northwest Territory," Bull. St. Louis Med. Soc. **36**:12 (November 28) 1941.
10. Steiner, Walter R.: Dr. William Beaumont, An Appreciation, The Medical and Surgical Yearbook, Physicians Hospital of Plattsburgh, **1**:191-197, 1929.
11. Steiner, Walter R.: Dr. William Beaumont, A Sketch, Yale J. Biol. & Med. **6**:1-8, 1933.
12. Steiner, Walter R.: Dr. William Beaumont, New England J. Med. **213**:1137-1139 (December 5) 1935.
13. Reyburn, Thomas: Memoir of the Late William Beaumont, St. Louis Med. & Surg. J. **12**:127-139, 1854.
14. Erlanger, Joseph: A Reassessment of Beaumont the Investigator, Bull. St. Louis Med. Soc. **40**:13 (December 14) 1945.
15. Cannon, Walter B.: Some Modern Extensions of Beaumont's Studies on Alexis St. Martin, Reprinted from the J. Michigan State Med. Soc. (March to May) 1933.
16. Schlueter, Robert E.: William Beaumont—St. Louisan, Bull. St. Louis Med. Soc. **38**:39 (June 16) 1944.
17. Erlanger, Joseph: William Beaumont's Experiments and Their Present Day Value, Bull. St. Louis Med. Soc. **28**: 13, 14 (December 8, 15) 1933.
18. Seelig, Major G.: Biographical Sketch of William Beaumont, Bull. St. Louis Med. Soc. **28**:13 (December 8) 1933.
19. Luckhardt, Arno B.: Three Doctor William Beaumont Letters, Surg., Gynec. & Obst. **66**:125-127 (January) 1938.
20. Goodwin, Edward J.: A History of Medicine in Missouri, St. Louis, Published by W. L. Smith, 1905.
21. Goldstein, Max A.: One Hundred Years of Medicine and Surgery in Missouri, Published by St. Louis Star, 1900.
22. Myer, Jesse S.: A New Print of Life and Letters of Dr. William Beaumont, St. Louis, The C. V. Mosby Company, 1939.

ESTROGENIC SUPPORT WHEN NEEDED MOST



This well tolerated synthetic estrogen offers all of the advantages of the natural substances, and at the same time is far more economical. It is not a stilbene derivative.

Clinicians who have investigated Schieffelin BENZESTROL agree that the response of patients suffering from the distressing symptoms that frequently attend the menopause, has been most gratifying.

In addition, Schieffelin BENZESTROL has proved of benefit for the suppression of undesirable lactation and as a supplementary medication in infantile gonorrheal vaginitis.

ACCEPTED AMERICAN MEDICAL ASSN

Available in tablets of 0.5, 1.0, 2.0 and 5.0 mg.; in solution in 10 cc. vials, 5 mg. per cc.; and vaginal tablets of 0.5 mg. strength.
Literature and Sample on Request

Schieffelin BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)

Schieffelin & Co.

20 COOPER SQUARE, NEW YORK 3, N.Y.
Pharmaceutical and Research Laboratories



Now PENICILLIN CALCIUM tablets – Schering

Schering's PENICILLIN CALCIUM TABLET contains 25,000 Oxford Units buffered with *0.3 Gm.* sodium citrate. This small quantity of buffer has been shown to produce penicillin blood levels identical with those obtained when almost twice as much buffer is provided.

Current practice is to employ oral penicillin in the treatment of less severe infections caused by the more penicillin-sensitive organisms, and where experience with parenteral therapy has shown that this antibiotic will not be required for prolonged and intensive therapy. Oral penicillin should be administered in a ratio of 5:1 to obtain blood levels comparable to those achieved with intramuscular injection.

PACKAGING: PENICILLIN CALCIUM TABLETS–SCHERING are packaged twelve tablets per box, each tablet hermetically sealed in metal foil.

SCHERING

Schering CORPORATION · BLOOMFIELD, NEW JERSEY
IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

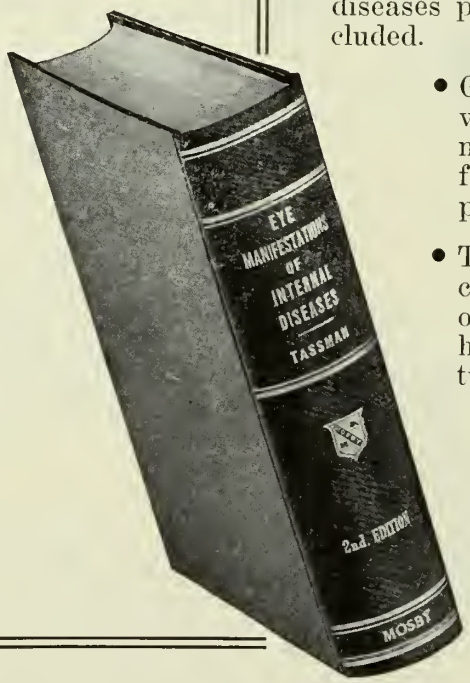
New Second Edition

Tassman's

The EYE MANIFESTATIONS of INTERNAL DISEASES

by I. S. TASSMAN, M.D., Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

611 pages, 243 illustrations, including 24 in color. Price, $10.00



Just Released!

For this Second Edition the author has retained his systematic arrangement of material and simple style. However, many important additions and changes have been made in order to bring the book up to date and improve its value as a reference.

- A number of diseases have been added to the discussion, including: Ocular Allergy, Epidemic Keratoconjunctivitis, Hurler's Disease, Osteopetrosis, Lymphogranuloma Venereum, Bowen's Disease of the Cornea, Toxoplasmic Encephalomyelitis, and Purtscher's Disease.
- Many new references and additions to diseases previously discussed are included.
- Greater space has been devoted to treatment, and the most recent methods and forms presented wherever possible.
- The text matter has been increased by 13 per cent and over forty new illustrations have been added or substituted.

Order Now!

The C. V. Mosby Company
3207 Washington Blvd.
St. Louis 3, Missouri

MJ 9/46

Gentlemen: Send me a copy of the new Second Edition Tassman's
EYE MANIFESTATIONS OF INTERNAL DISEASES

...Attached is my check for $10.00. ...Charge my account.

Name .....

Address .....

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

SEPTEMBER, 1946

EDITORIALS

DEPARTMENT OF PUBLIC HEALTH AND WELFARE

The State Board of Health no longer exists. This board, which was established by the legislature in 1883, successfully performed its various functions until July 1, 1946. The abolishment of this Board of Health by the legislature this year was made necessary by the newly adopted Constitution of the state. This constitution provided that all the boards, bureaus and commissions be consolidated into not more than twelve departments. It further provided that the legislature create a Department of Public Health and Welfare.

The Department of Public Health and Welfare officially came into being July 1, 1946. The department comprises three major divisions: Division of Health, Division of Mental Diseases and Division of Welfare.

The Division of Health has taken over the former duties of the state board of health with the exception of the licensing of persons to practice medicine. The Division of Mental Diseases includes the four state hospitals at Fulton, St. Joseph, Nevada and Farmington, and the two state schools at Marshall and Carrollton. The Division of Welfare covers the former duties of the state social security commission and the commission for the blind.

The Director of the Department of Public Health and Welfare has not been named. The Director of the Division of Health is R. M. James, M.D., former state health commissioner. The Director of the Division of Mental Diseases is Orr Mullinax, M.D.

All licensing, including that of doctors of medicine, has been placed in the newly created Department of Education. In the Department of Education, a Division of Registration and Examination has been established which will act as a central clearing house for all persons who are required to secure a license to practice a profession. The various boards responsible for the examination and licensing of the graduates of schools of nursing, dentistry, optometry, veterinary, osteopathy and such will continue to function as in the past. A new board of medical examination and registration, known as the State Board of Medical Examiners, has been created which will handle the licensing of doctors of medicine. The members of this board are Drs. Howard B. Goodrich, Hannibal; Edwin C. White, Kansas City; W. S. Sewell, Springfield; Paul A. Knepper, St. Joseph; Harry A. Klein, St. Louis, and W. O. Finney, Chaffee. Dr. Goodrich, President of the Association, was elected president of the board.

MORE HOSPITALS FOR MISSOURI?

United States Senate Bill 191, sponsored by Senators Hill and Burton, known as the hospital survey and construction act, was signed by President Truman on August 13, 1946. This bill provides for the appropriation of federal funds to assist the various states:

(1) To survey their needs for the construction of hospitals and related facilities, and

(2) Based on the survey, federal funds will be given to the states for the construction of hospitals and related facilities.

General provision of the legislation requires that each state must establish a survey commission which will conduct a survey of all present health facilities, public, private and nonprofit, in the state. Based on this survey, the commission may then request grants from the federal government for the construction of hospitals or health centers in the location or locations shown to be in need of such facilities. The federal grant will not exceed one third of the cost of such projects. Therefore, the state, county, city or voluntary nonprofit hospital which is entitled to receive the federal grant must provide the balance of the required funds; namely, 66⅔ per cent.

In Missouri legislation to comply with the federal act has been submitted to the legislature in the form of House Bill No. 459. This bill, amended several times, is now known as Senate Committee Substitute for House Substitute for House Bill No. 459 and is pending on the Missouri Senate Calendar for final passage.

The legislature is now in recess and will return September 7. It is hoped that Senate Committee Substitute for House Substitute for House Bill No. 459 will then be adopted so that Missouri will be in a position to receive federal funds for the construction of hospitals in areas of the state which badly need them.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY

The annual fall clinical conference of the Kansas City Southwest Clinical Society will be held in the Municipal Auditorium, Kansas City, on October 7, 8, 9 and 10, 1946.

Guest speakers who will appear on the program are: Drs. E. T. Bell, Minneapolis; Louis A. Buie and John S. Lundy, Rochester; R. B. Cattell, Bos-

Advertisement



From where I sit
by Joe Marsh

Ben Ryder and the Wanderlust

During the war, Ben Ryder talked about the trips he'd take when gasoline rationing was ended. Used to pore over roadmaps—checking mileages and charting routes.

Now Ben's taking quite a lot of ribbing. Soon as rationing was lifted, he decided he liked staying home, puttering in the garden, playing chess, sharing a pleasant glass of beer with friends.

"Shucks," admits Ben sheepishly, "as soon as you *can* go, then it's just as good as having gone! You might as well stay home . . . enjoy your friends and family."

From where I sit, that's a pretty common trait in human nature.

Take that glass of beer, for instance. During Prohibition, Ben was nursing an insatiable thirst. But come repeal, Ben suddenly finds he's happy with a friendly, moderate glass of beer—and nothing more. Yep—just tell folks the sky's the limit, and they'll settle for a piece of friendly earth.

Joe Marsh

Copyright, 1946, United States Brewers Foundation

Prevent INFECTION



with MERCUROCHROME

ACCEPTED AMERICAN MEDICAL ASSN

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

Extensive use of the Surgical Solution of Mercurochrome has demonstrated its value in preoperative skin disinfection. Among the many advantages of this solution are:

Solvents which permit the antiseptic to reach bacteria protected by fatty secretions or epithelial debris.

Clear definition of treated areas. Rapid drying.

Ease and economy of preparing stock solutions.

Solutions keep indefinitely.

The Surgical Solution may be prepared in the hospital or purchased ready to use.

Mercurochrome is also supplied in Aqueous Solution, Powder and Tablets.

HYNSON, WESTCOTT & DUNNING, INC.

Baltimore 1, Maryland

ton; Warren H. Cole, Paul H. Holinger, Walter L. Palmer, Herbert E. Schmitz and Willard Van Hazel, Chicago; L. H. Garland, San Francisco; Paul B. Magnuson, Washington; R. Glen. Spurling, Louisville; E. H. Watson, Ann Arbor; Charles A. Doan, Columbus; A. I. Folsom and Tinsley R. Harrison, Dallas.

The Monday night program will be a joint meeting with the county medical societies. Dr. Bell will direct the conference and the participants will be Drs. Cattell, Doan, Garland, Harrison, Lundy and Van Hazel. Daily features will include round table luncheons, radio broadcasts, scientific and technical exhibits and entertainment for visiting women. A stag dinner and entertainment will be held on Tuesday evening and alumni dinners on Wednesday evening.

The program appears in the *Kansas City Medical Journal*, a copy of which will be sent upon request to the executive office, 630 Shukert Building, Kansas City 6, Missouri.

NEWS NOTES

Dr. George H. Thiele, Kansas City, has been elected president-elect of the American Proctologic Society.

Dr. R. Lee Hoffman, Kansas City, has been elected national representative from the south central branch to the executive council of the American Urological Association.

Dr. Howard B. Goodrich, Hannibal, was elected president of the new six member Board of Medical Examiners at its first meeting in Jefferson City on August 5. Dr. Edwin C. White, Kansas City, was elected vice president, and Dr. Harry A. Klein, St. Louis, secretary-treasurer.

Dr. E. P. Heller, Kansas City, has been appointed councilor for a ten state area of the American Association of Industrial Physicians and Surgeons.

SOCIETY PROCEEDINGS

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

South Central Counties Medical Society

The South Central Counties Medical Society held a dinner meeting at the El Patio Hotel, Cabool, on July 19. The following were present: Drs. E. C. Bohrer and Roland H. Smith, West Plains; Garrett Hogg, Cabool; J. A. Fuson, Mansfield; J. R. Mott, Hartville; R. W. Denney, A. C. Ames and R. A. Ryan, Mountain Grove; J. W. Hutchinson, Bolivar.

Being unable to secure a speaker, the evening was spent in informal discussion of various subjects and the reporting of interesting cases by Drs. Hogg, Bohrer, Denney and Smith, the case causing the most discussion being one of ruptured aneurysm of the abdominal aorta.

The meeting adjourned at an early hour to meet at Mountain Grove on August 16.

A. C. AMES, M.D., Secretary.



DOCTOR, MEET THE DARICRAFT BABY

Perhaps you are "meeting" the Daricraft Baby every day in your own practice. If not, may we call to your attention the following significant points of interest about Vitamin D increased Daricraft:



1. Produced from inspected herds; 2. Clarified; 3. Homogenized; 4. Sterilized; 5. Specially Processed; 6. Easily Digested; 7. High in Food Value; 8. Improved Flavor; 9. Uniform; 10. Dependable Source of Supply.

Producers Creamery Co.
Springfield, Mo.

Daricraft
HOMOGENIZED
EVAPORATED
MILK
ACCEPTED
AMERICAN MEDICAL ASSN

Kansas City Southwest Clinical Society

24th Annual Fall Clinical Conference

Dates: October 7, 8, 9, 10, 1946.

Place: Municipal Auditorium, Kansas City, Missouri.

Guest Speakers:

E. T. Bell, M.D. (pathology) Minneapolis
Louis A. Buie, M.D. (proctology) Rochester
Richard B. Cattell, M.D. (surgery) Boston
Warren H. Cole, M.D. (surgery) Chicago
Charles A. Doan, M.D. (int. med. & research) Columbus.
A. I. Folsom, M.D. (urology) Dallas
L. H. Garland, M.D. (roentgenology) San Francisco
Tinsley R. Harrison, M.D. (int. med. & cardiology) Dallas
Paul H. Holinger, M.D. (OORL & bronchology) Chicago
John S. Lundy, M.D. (anesthesiology) Rochester
Paul B. Magnuson, M.D. (orthopaedics) Washington
Walter L. Palmer, M.D. (int. med. & gastroenterology) Chicago
Herbert E. Schmitz, M.D. (obstetrics & gynecology) Chicago
R. Glen Spurling, M.D. (neurosurgery) Louisville
Willard Van Hazel, M.D. (surgery) Chicago
E. H. Watson, M.D. (pediatrics) Ann Arbor

Daily Features:

Radio Programs
Scientific Exhibits and Movies
Round Table Luncheons
Technical Exhibits

Special Features:

Monday Evening: Clinicopathologic Conference
Tuesday Evening: Stag Dinner and Entertainment
Wednesday Evening: Alumni Dinners
Women's Entertainment

See Kansas City Medical Journal for Complete Program



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.
Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.
Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

DEPENDABILITY...the most important quality in a contraceptive

the extra assurance with every tube of Koromex Jelly

TIME TESTED CLINICAL RECORD



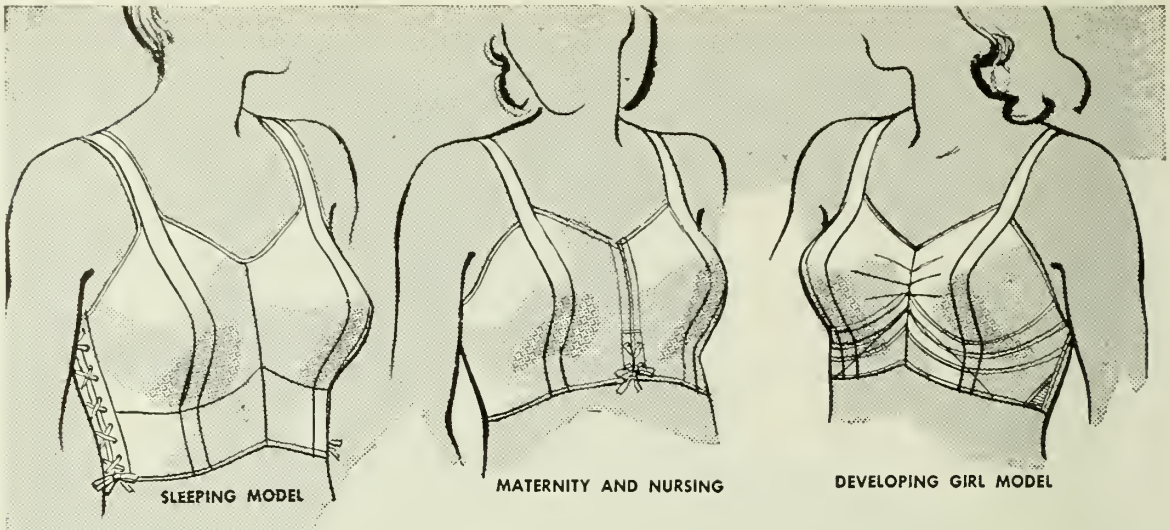
with confidence

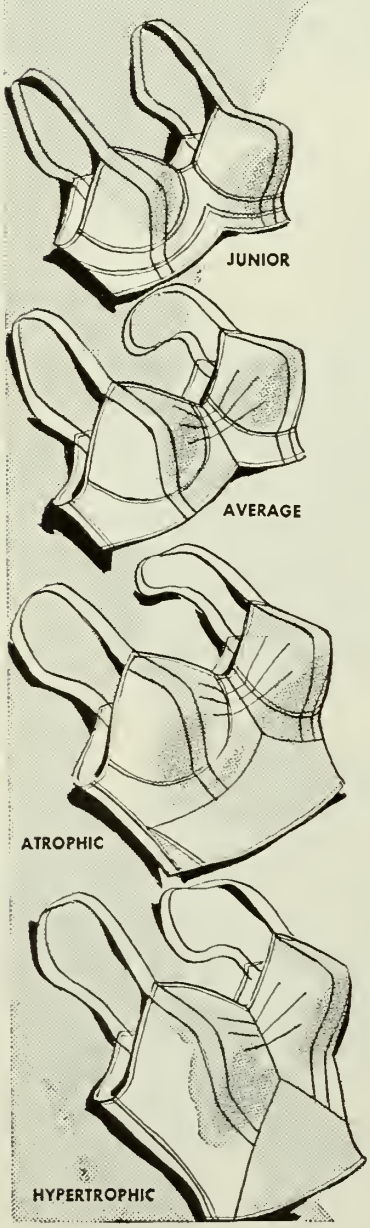
prescribe...

ACTIVE INGREDIENTS: Boric acid 2.0%, oxyquinalin benzoate 0.02% and phenylmercuric acetate 0.02% in a base of glycerin, gum tragacanth, gum acacia, perfume and de-ionized water.

write for literature

HOLLAND-RANTOS CO., Inc.
551 FIFTH AVENUE • NEW YORK 17, N. Y.





Lov-é **CORRECTIVE** *Brassieres*

IN MORE THAN 500 SIZE VARIATIONS

CUSTOM-FITTED TO THE INDIVIDUAL IN EXACT ACCORDANCE WITH THE PHYSICIAN'S INSTRUCTIONS, THESE SUPPORTS ARE THE MOST HIGHLY SPECIALIZED AVAILABLE AND A DEFINITE AID TO TREATMENT.

SPECIAL MODELS PROVIDE HYGENIC REMEDIAL SUPPORT FOR SPECIFIC BREAST CONDITIONS. ALSO AVAILABLE: AMPUTATION MODELS, ARTIFICIAL BREASTS, MUSCLE PADS, HOSPITAL BINDERS, MATERNITY GARTER SUPPORTS.

ALL LOV-E' PRODUCTS ARE EXPERTLY FITTED BY COMPANY-TRAINED LOV-E' BRASSIERE TECHNICIANS. LOV-E' MODELS HAVE BEEN DEVELOPED DURING 14 YEARS OF MEETING THE REQUIREMENTS OF THE MEDICAL PROFESSION. MADE BY LOV-E' BRASSIERE COMPANY, HOLLYWOOD, CALIFORNIA.

LOV-E SECTION CORSET DEPARTMENT

FAMOUS-BARR CO., ST. LOUIS



First breath, first bath, first bottle

In a life filled with "firsts", baby has no time to cope with such gastro-intestinal problems as carbohydrate fermentation and attendant distention and diarrhea—particularly during his first few weeks.

'Dexin' has proven an excellent "first carbohydrate" because 1) its high dextrin content is not fermentable by the organisms usually present in the intestinal tract, and 2) because it promotes the formation of soft, flocculent, easily digested curds.

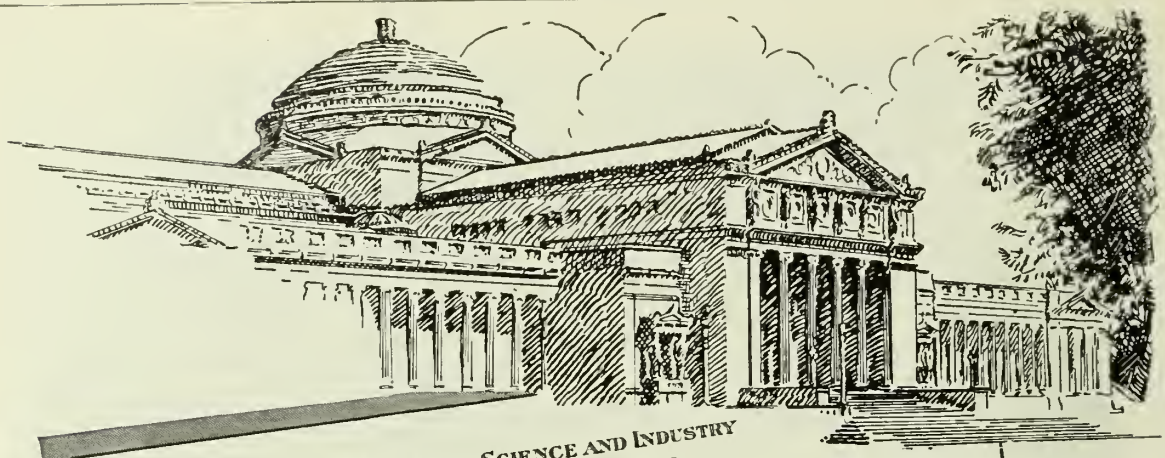
Simply prepared in hot or cold milk, 'Dexin' brand High Dextrin Carbohydrate is easily adapted to increasing formula needs from month to month, and later, being palatable but not too sweet, is a welcome supplement to other bland foods. 'Dexin' *does* make a difference.

'Dexin' HIGH DEXTRIN CARBOHYDRATE
BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

Literature on request 'Dexin' Reg. Trademark

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.



MUSEUM OF SCIENCE AND INDUSTRY
FOUNDED BY JULIUS ROSENWALD
JACKSON PARK · CHICAGO 37

August 7, 1946

Mr. C. H. Fleck, President
S. H. Camp and Company,
Jackson, Michigan

Dear Mr. Fleck:

Today marks the 10th Anniversary of the Transparent Woman exhibit and since the famous "lady" is making her permanent home in our Medical Section, we feel that the day should not be allowed to pass without some comment.

I vividly recall the premier of the Transparent Woman at Rockefeller Center in New York City before a distinguished assembly of physicians, scientists and educators. Its later tour throughout the Nation under the auspices of state and county medical societies and academies of medicine was a significant contribution to public health education. You are to be congratulated not only on your sponsorship of this important and effective exhibit but also on the ethical manner in which it was presented to the laity through the profession.

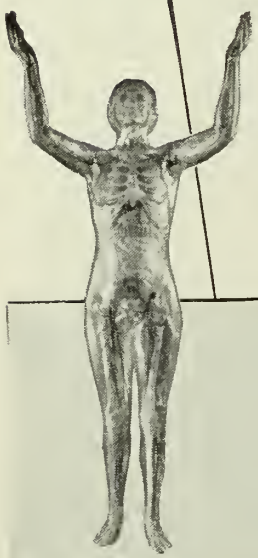
The Transparent Woman continues to be one of the major centers of interest at the museum. Practically all of the 1,026,250 visitors last year made her acquaintance and preliminary 1946 figures show the attendance running higher.

It is fitting on this 10th Anniversary of the Transparent Woman exhibit to again express our appreciation to you for your active interest in the Medical Section.

Cordially yours,

Eben J. Carey

EBEN J. CAREY, M.D., Curator,
Medical Exhibits



CAMP TRANSPARENT WOMAN EXHIBIT MARKS TENTH ANNIVERSARY

Dedicated at Rockefeller Center in 1936 by world famous figures in medicine, science and education, the *Transparent Woman* has since been viewed by some 50,000 physicians and 16,000,000 laymen. Its steady popularity in the Medical Section of the Museum of Science and Industry verifies our hope that the exhibit will continue to play its authentic role in public health education within the precepts of the medical profession.

S. H. CAMP and COMPANY · JACKSON, MICHIGAN

Personal Service

—given each policyholder

—by specialists engaged exclusively in this field

—based on 47 years experience in successfully handling more than 60,000 malpractice claims

—enables The Medical Protective Company to provide you Prevention, Defense and Protection against loss

—as you provide service for your patients



THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA



Sturdy

ON STRONG FOUNDATIONS

The 2000 year old Nile Temple of Philae stands enduringly firm on its original foundation—even though flooded each year from November to June, since the construction of the Assuan Dam at the end of the nineteenth century. • Similarly, for sturdy bodies in later years a strong nutritional foundation must be established early in infancy. • For this assurance, BIOLAC safely and simply furnishes nutritional elements for optimum health. Among the other essential nutrients are valuable proteins of milk, an outstanding source of *all the essential amino acids* ...the indispensable foundation stones for sound tissues. • Indeed, BIOLAC is "baby talk" for a good square meal.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE • NEW YORK 17, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN.

Biolac

The foundation is the thing!



Biolac is a liquid modified milk, prepared from whole and skim milk with added lactose, and fortified with thiamine, concentrate of vitamins A and D from cod liver oil, and iron citrate; only Vitamin C supplementation is necessary. Evaporated, homogenized and sterilized. Available in 13 fl. oz. tins at all drug stores.

Quickly prepared... easily calculated: 1 fl. oz. Biolac to 1½ fl. oz. water per lb. of body weight.

Benzedrine Inhaler, N.N.R.

"... is quite effective in the clearing of nasal congestion due to allergy or infection"

Feinberg, S. M.: Allergy in Practice, Chicago, The Year Book Publishers, Inc., 1944, p. 502.

Your hay fever patients will be grateful...particularly between office visits...for the relief of nasal congestion afforded by Benzedrine Inhaler, N. N. R.

The Inhaler may make all the difference between weeks of acute misery and weeks of comparative comfort.

Each Benzedrine Inhaler is packed with racemic amphetamine, S.K.F., 250 mg.; menthol, 12.5 mg.; and aromatics.

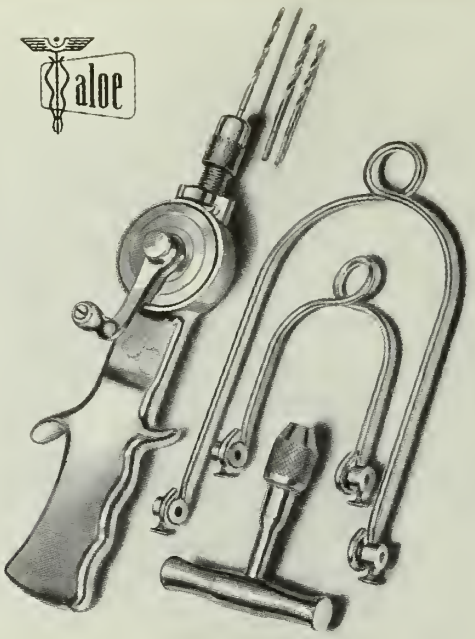


Benzedrine Inhaler

a better means of nasal medication

ACCEPTED AMERICAN MEDICAL ASSN.

Smith, Kline & French Laboratories, Philadelphia, Pa.



GOVERNMENT SURPLUS

. . . approximately 1/3 list, quality fully certified

We hove obtained from War Assets Carporatian a large quantity af the excellently made instruments illustrated which we can affer at the following very favarable prices.

3B122G — Kirschner Hand Drill (A), chrame plated body with stainless steel chuck, camplete with 3 twist drills, sizes 1/16-, 3/32-, and 1/8-inch, standard price $29.50, special, only.....**$10.00**

3B123G — Bohler-Steinman Pin Set, consisting af chrame plated Adjustable Chuck Handle (B), one each stainless steel Bohler-Steinman Pin Holders (B and C), medium adult ond child sizes, standard price $14.50, special, only.....**$5.85**

3B124G — Special Bane Set, consisting of one each of the abave listed instruments, standard price $44.00, special, only.....**$12.50**

A. S. ALOE COMPANY — *1831 Olive St. — St. Louis 3, Mo.*

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.



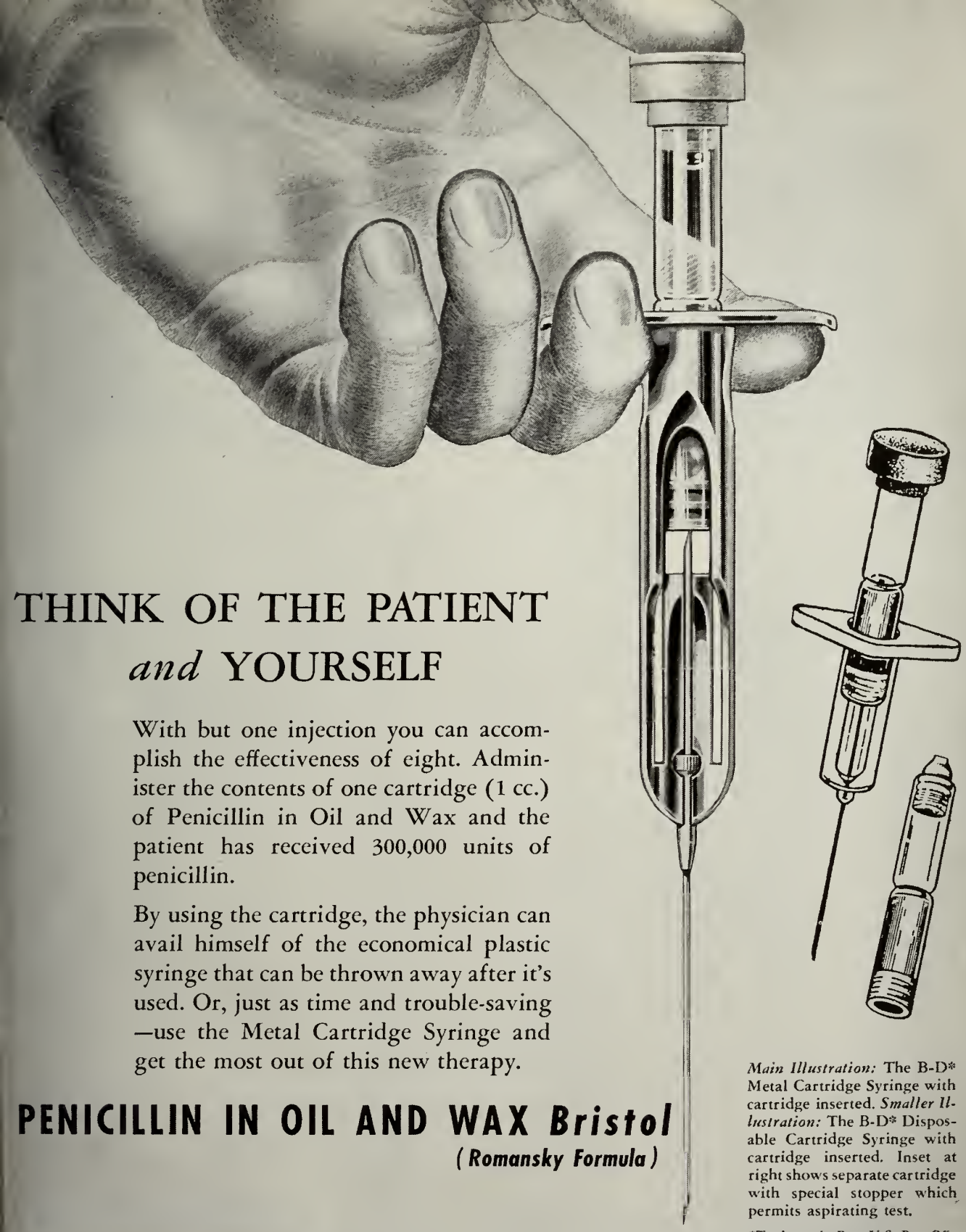


Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.



THINK OF THE PATIENT *and* YOURSELF

With but one injection you can accomplish the effectiveness of eight. Administer the contents of one cartridge (1 cc.) of Penicillin in Oil and Wax and the patient has received 300,000 units of penicillin.

By using the cartridge, the physician can avail himself of the economical plastic syringe that can be thrown away after it's used. Or, just as time and trouble-saving —use the Metal Cartridge Syringe and get the most out of this new therapy.

PENICILLIN IN OIL AND WAX *Bristol*

(Romansky Formula)

Main Illustration: The B-D* Metal Cartridge Syringe with cartridge inserted. *Smaller Illustration:* The B-D* Disposable Cartridge Syringe with cartridge inserted. Inset at right shows separate cartridge with special stopper which permits aspirating test.

*Trade mark, Reg. U.S. Pat. Off., Becton, Dickinson & Co.

BRISTOL
LABORATORIES
INCORPORATED

SYRACUSE 1, NEW YORK

Not to be Sneezed at

In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetics allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

Since in the light of present knowledge it is not possible, save in specific cases, to make non-allergenic cosmetics, we believe the cosmetic requirements of the allergic individual should be considerd by her doctor in the light of the formulas and general characteristics of the products she is using or contemplates using.

Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetics requirements and aesthetic preferences. They are made available to you by Cosmetics Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

LUZIER'S, INC.,

Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI



Alice had it easy

We've come to appreciate Alice's feelings in "Through the Looking Glass" when the Red Queen said,

"...it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"

But we find ourselves in an even more trying predicament.

Production of AMINOIDS* is up more than 100% over last year and still we are not able to keep up with the demand.

We are improving and extending production facilities as rapidly as post-war conditions permit. Meanwhile we are trying to distribute our output as equitably as possible. We hope we shall soon be able to fill every order promptly. Your understanding of our predicament and your continued friendly cooperation will be appreciated.

*The word AMINOIDS is a registered trademark of The Arlington Chemical Company.

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1 Arlington NEW YORK

A HOT PACK APPARATUS
that does its work in two minutes!

No fuss or bother. Lift lid. Drop packs into perforated metal basket.

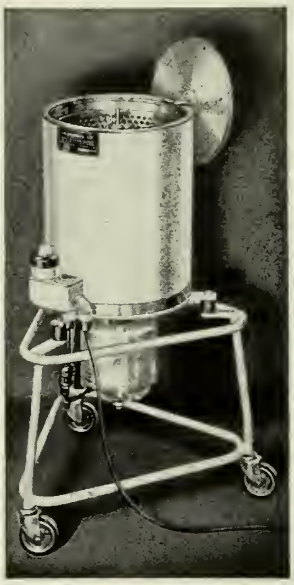
Snap on switch. The basket rotates in an atmosphere saturated with steam.

Packs become very hot in this insulated tank, but **never become wet** due to the centrifugal action of the basket. Water in lower half of tank boils by means of an electric heater to produce the required steam.

For a quick, neat method of preparing hot packs requiring less personnel to operate, arrange for a demonstration.

Write Otis V. Bennett—no obligation.

OTIS V. BENNETT
630 Pearl Ave. Kirkwood 22, Missouri



The Emerson **Hot Pack** Apparatus
J. H. Emerson Company

ALCOHOL—MORPHINE—BARBITAL
ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.
Telephone—Victor 4850

Registered by the Council on Medical Education and Hospitals of the A. M. A.

Dependable Nourishment



The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant *—from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in SURGICAL TECHNIQUE starting September 23rd, and every four weeks thereafter.

Four Weeks Course in GENERAL SURGERY starting September 9, October 7.

One Week Course in SURGERY OF COLON & RECTUM starting September 16, October 14.

One Week Course in THORACIC SURGERY starting September 23.

GYNECOLOGY—Two Weeks Intensive Course starting October 21.

One Week Personal Course in VAGINAL APPROACH TO PELVIC SURGERY starting September 16, October 14.

MEDICINE—Two Weeks Intensive Course starting September 23, October 21.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

eaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

ACCIDENT • HOSPITAL • SICKNESS
INSURANCE
FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	quarterly

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,900,000.00	$13,500,000.00

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

James A. Wallace, M.D. *Medical Director* — **S. N. Brinson, M.D.** *Medical Director* — **Charles W. Miller, Jr., M.D.** *Psychiatrist* — **Walter R. Wallace** *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.



GRADWOHL REAGENT SPECIALTIES

A complete line for clinical laboratories devoted to all branches of chemistry, bacteriology, hematology, and parasitology. Tested and checked in our own clinical laboratories. Purity warranted. Our facilities assure prompt shipment of large or small orders. Inquiries invited.

NEW CATALOG

Reagents catalogued alphabetically—also according to subjects and techniques, plus medical reference guide. Catalog comprises full line blood testing sera including anti-Rh, anti-M and anti-N; also reagents for Wassermann, Kline, and Kahn tests. Write for your copy. FREE ON REQUEST.

NOW READY



GRADWOHL LABORATORIES

R. B. H. Gradwohl, M. D., Director

3514 Lucas Av. St. Louis, Mo.

HANGER

INVENTORS and MANUFACTURERS of



ENGLISH WILLOW and DURAL LIGHT METAL LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.

1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088



Season of Storm

CAUGHT in the storm center of the menopause—bewildered by vasomotor disturbances, mental depression, pain and tension—many patients may be restored to comparative tranquillity by well timed estrogenic therapy.

When you base your treatment on an estrogenic product of unquestioned purity and potency, you can feel certain you have given your patient the best assistance possible through medication.

Physicians using Solution of Estrogenic Substances, Smith-Dorsey, may rest upon that certainty . . . for Smith-Dorsey's product is manufactured under rigidly regulated conditions . . . to meet the highest standards of the industry.

A reliable product . . . judiciously administered . . . receding menstrual "storm" symptoms.

SOLUTION OF *Estrogenic Substances*

SMITH-DORSEY

Supplied in 1 cc. ampuls and 10 cc. ampul vials representing potencies of 5,000, 10,000 and 20,000 international units per cc.



THE SMITH-DORSEY COMPANY

LINCOLN, NEBRASKA · DALLAS · LOS ANGELES

Manufacturers of Pharmaceuticals to the Medical Profession Since 1908



Acceptable

AT EVERY SEASON

Taken cold during the summer months or hot during the wintertime, the delicious food drink made by mixing Ovaltine with milk provides a wealth of essential nutrients in readily digested and assimilated form. Its delicious taste makes it enjoyable at every season. As a supplement to an inadequate diet, in the correction of the milder forms of malnutrition, or when the intake of all essential nutrients must be augmented, it makes a worth-while contribution, as indicated by its composition shown in the table below. This dietary supplement provides biologically adequate protein, readily utilized carbohydrate, highly emulsified fat, ascorbic acid, B complex and other vitamins, and essential minerals. Its low curd tension makes for rapid gastric emptying and easy digestibility. It is relished by both children and adults, and is unusually acceptable either as a mealtime beverage or with between meal snacks.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.

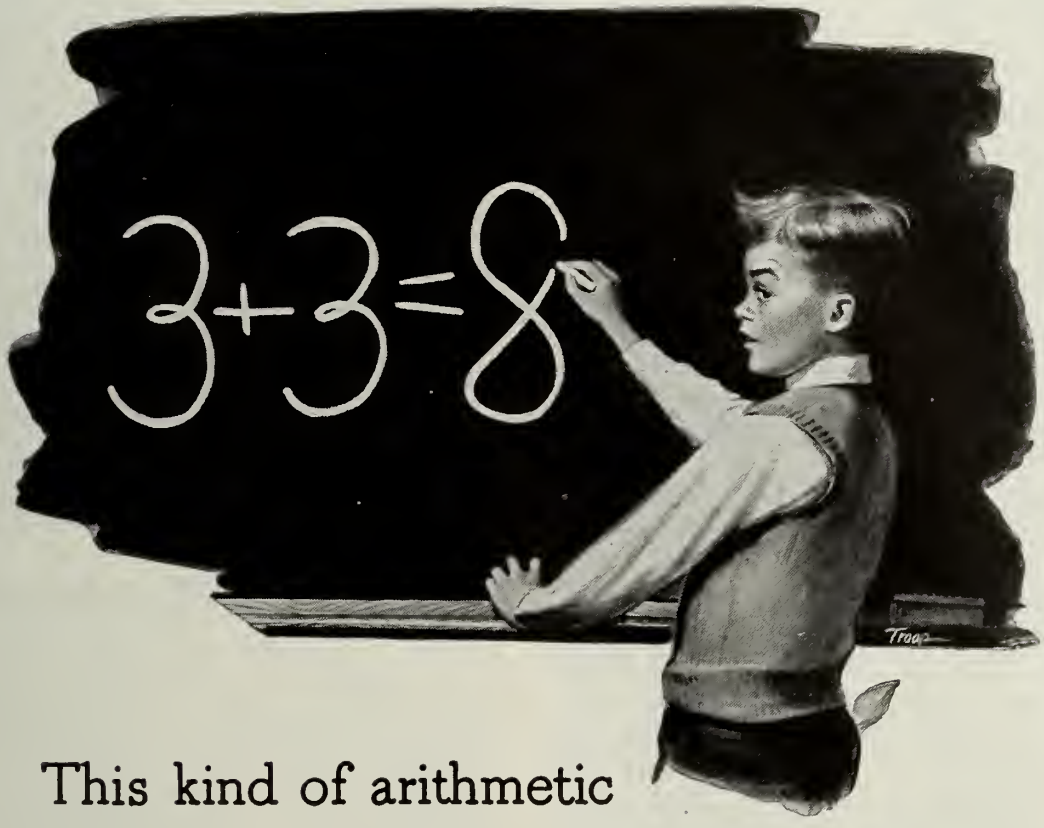


Ovaltine

Three servings daily of Ovaltine, each made of
½ oz. of Ovaltine and 8 oz. of whole milk,* provide:

CALORIES	669	VITAMIN A	3000 I.U.
PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
FAT	31.5 Gm	RIBOFLAVIN	1.50 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	6.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

*Based on average reported values for milk.



This kind of arithmetic may put Johnny through college

Here's how it works out:

$3 put into U. S. Savings Bonds today will bring back $4 in 10 years.

Another $3 will bring back another $4.

So it's quite right to figure that 3 plus 3 equals 8 . . . or 30 plus 30 equals 80 . . . or 300 plus 300 equals 800!

It will . . . in U. S. Savings Bonds. And those bonds may very well be the means of helping you educate your children as you'd like to have them educated.

So keep on buying Savings Bonds—available at banks and post offices. Or the way that millions have found easiest and surest—through Payroll Savings. Hold on to all you've bought.

You'll be mighty glad you did . . . *10 years from now!*

SAVE THE EASY WAY... BUY YOUR BONDS THROUGH PAYROLL SAVINGS

Contributed by this magazine in cooperation with the Magazine Publishers of America as a public service

A PUBLIC SERVICE PROJECT
The Advertising Council

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY



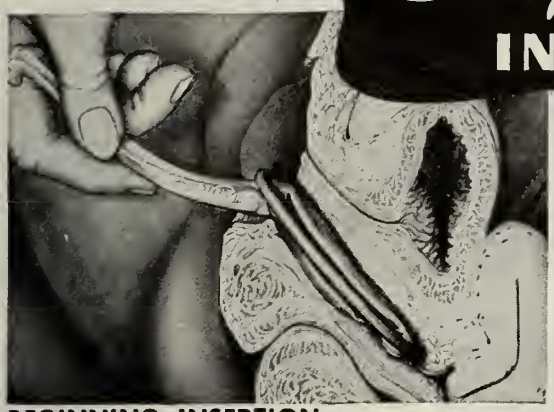
A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.

Simplicity IN USE

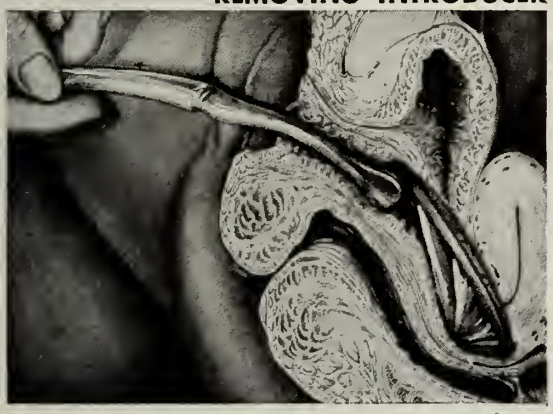


BEGINNING INSERTION



COMPLETING INSERTION

REMOVING INTRODUCER



SEATING DIAPHRAGM



These illustrations, showing the simplicity of use of "RAMSES" Gynecological Products, are reproduced from the booklet *Instructions for Patients*. For the physician's convenience, a supply of these booklets is available, upon request, for distribution to patients.

Determination of indications for control of conception, and advice on the proper method of providing protection, are the exclusive province of the physician. "RAMSES"* Gynecological Products are designed for use under the guidance of the physician only.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Ramses FLEXIBLE CUSHIONED DIAPHRAGM

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

A MARK OF Ramses DEPENDABILITY

gynecological division
JULIUS SCHMID, INC.

Quality First Since 1883
423 West 55 Street • New York 19, N. Y.



Your instructions faithfully executed. Qualified, courteous orthopaedic technicians.

•

THE
W. E. ISLE COMPANY
ENTIRE SECOND FLOOR
1121 GRAND AVE.
KANSAS CITY, MO.
VICTOR 2350

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5159 Delmar, St. Louis Forest 1913

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

INTERNATIONAL SURGICAL ASSEMBLY

UNITED STATES CHAPTER, INTERNATIONAL COLLEGE OF SURGEONS

MASONIC TEMPLE, DETROIT, OCTOBER 21, 22, 23, 1946

President, Herbert Acuff, Knoxville, Tenn. President-Elect Custis Lee Hall, Washington, D. C., Secretary & Chairman Detroit Assembly, L. J. Gariepy, 16401 Grand River Avenue, Detroit 27.

ALL MEDICAL MEN AND WOMEN IN GOOD STANDING CORDIALLY INVITED

Intensive Clinical and Didactic Program by World Authorities

Operative Surgical Clinics, Monday morning, October 21 in seventeen Detroit hospitals.

Convocation Speakers: Former Ambassador to Japan Joseph C. Grew. Congressman George A. Dondero from Michigan.

Banquet Speakers: Adm. Chester W. Nimitz, Vice Adm. Ross T. McIntire, Surg. Gen. Navy, and Morris Fishbein, M.D.

The following is list of members of the profession who will take part in program:

Lyon H. Appleby, Vancouver, B. C.
Hamilton Bailey, London, Eng.
W. Wayne Babcock, Philadelphia
Harry E. Bacon, Philadelphia
Channing W. Barrett, Chicago
Moses Behrend, Philadelphia
A. A. Berg, New York
Gerald L. Burke, Vancouver, B. C.
Sebastian J. Carnazzo, Omaha, Nebr.
Felipe Carranza, Buenos Aires, Argentina
Alejandro Ceballos, Buenos Aires, Argentina
David deSanson, Rio de Janeiro, Brazil
Francisco Grana, Lima, Peru
J. P. Greenhill, Chicago, Ill.
E. S. Gurdjian, Detroit
Custis Lee Hall, Washington, D. C.
Stuart W. Harrington, Rochester, Minn.
Rudolph Jaeger, Philadelphia
Albert Jirasek, Prague, Czechoslovakia
Charles G. Johnston, Detroit
Wm. E. Johnston, Detroit
Herbert I. Kallet, Detroit
Roland M. Klemme, St. Louis
Lloyd G. Lewis, Baltimore
Wm. C. MacCarty, Rochester, Minn.
Prof. J. Bitschai, Alexandria, Egypt
Lowrain E. McCrea, Philadelphia
Raymond W. McNealy, Chicago
Karl A. Meyer, Chicago
J. H. Mulholland, New York
Rudolf Nissen, New York
Richard H. Overholt, Brookline, Mass.
Col. John F. Pick, Chicago, Ill.
Carl A. Rosenbaum, Little Rock, Ark.
Max Thorek, Chicago, Ill.
Harold C. Voris, Chicago, Ill.
Robertson Ward, San Francisco
James M. Winfield, Detroit
Otis R. Wolfe, Marshalltown, Iowa
Edwin L. Zander, New Orleans

Hotel Headquarters: Book-Cadillac Hotel and Statler Hotel. FOR HOTEL RESERVATIONS, write C. W. Husband, Chairman, Housing Committee, 1005 Stroh Bldg., Detroit 26, Mich.

Any doctor of medicine who uses surgery in his practice will find this meeting of great value.
A program will be mailed to every member of the medical profession in good standing in the United States and Canada, upon request to the Secretary, about October 1.

COMPREHENSIVE SCIENTIFIC AND TECHNICAL EXHIBIT. SPECIAL ENTERTAINMENT FOR THE LADIES



Do you know what these symbols stand for?

The emblem above, appearing on the reverse of the U. S. Liberty dime, is known as the "fasces." It depicts a bundle of staves enclosing an ax and was the ancient Roman symbol of authority. On our dime it stands for the "unity wherein lies our strength."

The familiar sign, to the left, is the Rexall symbol of reliable pharmaceutical service wherein lies safety. It appears on selected neighborhood drug stores throughout the country, and stands for laboratory-tested Rexall drugs and selected pharmacal ability in compounding them. Your prescriptions filled at these Rexall Drug Stores combine both ingredients and skill unsurpassed for *quality control.*

Rexall
DRUGS

REXALL FOR RELIABILITY

UNITED-REXALL DRUG CO.

LOS ANGELES, CALIFORNIA

PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

Preferred Choice

. . . THE G-E MODEL G LAMP

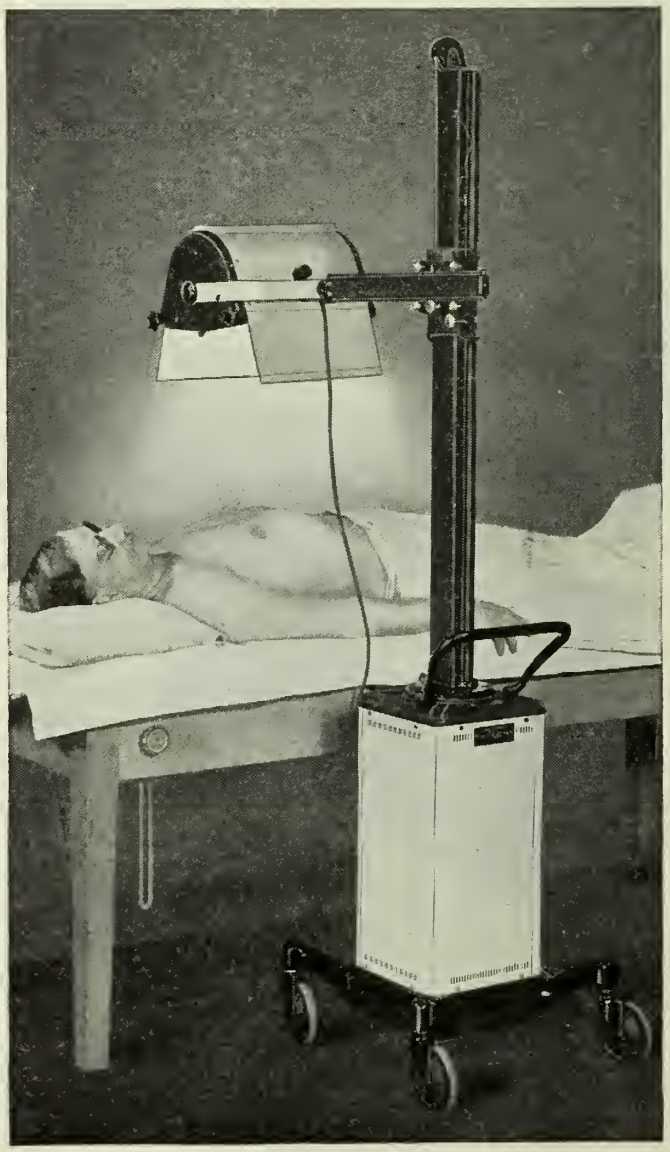
The G-E Model G Ultraviolet Lamp is designed for professional use in irradiating large areas of the body (general or systemic technique) and can also be effectively employed regionally.

The source of ultraviolet radiation is the reliable Uviarc—high pressure mercury quartz burner—whose emission characteristics cover the full range of therapeutic ultraviolet.

The following features are responsible for the steadily increasing preference expressed by medical men who use the Model G Ultraviolet Lamp in office, clinic and hospital.

- **Unusually flexible—Easy to Apply**
- **Self-Starting Uviarc**
- **Controllable field of radiation**
- **Easy to Operate**
- **Ready Mobility**
- **Durable and attractive in design and finish . . . a credit to your facilities**

For complete information about the Model G Lamp, write today to General Electric X-Ray Corporation, 175 West Jackson Boulevard, Chicago 4, Illinois. Dept. 2596.



GENERAL ELECTRIC X-RAY CORPORATION



That's just about how quickly and easily you can get ready for an injection of Abbott's Romansky formula of penicillin calcium in oil and wax when you use a new sterile Disposable Cartridge Syringe. Here's why: No further sterilization of syringe and needle. No drying. No complications from traces of water. No trouble of drawing the fluid from a bulk container. No wasted suspension. And, last but not least, no need to bother about cleaning the needle and syringe afterwards. *Just throw them away.* Each set consists of a disposable plastic syringe with an affixed standard 20-gauge, 1½-inch stainless steel needle and a glass cartridge-plunger containing a 1-cc. dose of 300,000 units of penicillin suspended in peanut oil and beeswax. You will find the set complete, compact, easy to carry and ready to use. Demand sometimes outstrips supply, but we're making more sets every day. ABBOTT LABORATORIES, North Chicago, Illinois.

Abbott's

Penicillin in Oil and Wax

with the B-D* (ROMANSKY FORMULA)

Disposable Syringe and Cartridge Set

*T. M. REG. BECTON, DICKINSON & CO.

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

IMMEDIATE DELIVERY

McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps —Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service

Phone for Demonstration

EDMUND F. HANLEY—Distributor

1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.

ZEMMER

Prescribe or Dispense

Zemmer Pharmaceuticals

A complete line of laboratory controlled ethical pharmaceuticals. Mo 9-46

Chemists to the Medical Profession for 44 years.

The Zemmer Company Oakland Station Pittsburgh 13, Pa.

HAMILTON-SCHMIDT SURGICAL CO.

St. Louis, Missouri

Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE

CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES

Est. 1919

QUINCY X-RAY & RADIUM LABORATORIES

(owned and directed by a Physician-Radiologist)

W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois



In *Cheilitis* from LIPSTICK

Introctoble exfoliotive lip dermotoses moy often be troced to eosin lipstick dyes. Remove the offending irritonts, ond the symptoms often disappear. In lipstick hypersensitivity, prescribe AR-EX NON-PERMANENT LIPSTICK—so cosmeticolly desirable, yet free from all known irritonts. *Send for Free Formulary.*

PRESCRIBE ℞ AR-EX *NON-PERMANENT* LIPSTICK

AR-EX COSMETICS, INC. 1036 W. VAN BUREN ST. CHICAGO 7, ILL.

THE MARY E. POGUE SCHOOL

For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319



Council Accepted

Parenamine, Amino Acids Stearns, an acid hydrolysate developed and perfected by Stearns Research... A sterile, pyrogen-free solution of *all the amino acids* known to be indispensable to humans.

Extensive clinical use* has established the value of Parenamine in preventing and correcting hypoproteinemia and maintaining positive nitrogen balance.

Parenamine

Parenteral Amino Acids

For Protein Deficiency

COMPOSITION: Derived from casein by acid hydrolysis and fortified with pure *dl*-tryptophane, Parenamine is a sterile 15 per cent solution of all the amino acids known to be essential for humans.

INDICATED in conditions of restricted intake, faulty absorption, increased need, or excessive loss of proteins—as in preoperative and postoperative management, extensive burns, delayed healing, gastro-intestinal disorders, fevers, et cetera.



ADMINISTRATION may be intravenous, intrasternal, or subcutaneous.

SUPPLIED in 100 cc. rubber-capped bottles.

**Reprints and complete clinical data on request.*

Frederick Stearns & Company
Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Parenamine* Reg. U. S. Pat. Off.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

The Division for Postgraduate Medical Education

1. Newer Methods of Diagnosis and Therapy in Obstetrics and Gynecology
   9 September to 21 September 1946 Tuition $100.00
2. Basic Science in Surgery and the Allied Specialties
   13 September 1946 to 17 May 1947 Tuition $500.00
3. Hospital Administration
   13 September 1946 to 17 May 1947 Tuition $50.00

For circulars and information write

FRANKLIN E. WALTON, M.D., *Assistant Dean*

Washington University School of Medicine

Euclid and Kingshighway, St. Louis 10, Missouri

Freidman Pregnancy Test

requires only 48 hours. Write for mailing tube and vial.

Established 1938 *Price $5.00*

Pregnancy Diagnostic Laboratories

DYSART, IOWA

MISCELLANEOUS ANNOUNCEMENTS

FOR SALE: By retired physician, one X-ray unit; one Fischer diathermy unit. Priced at $50.00 for both.—W. W. Ellis, M.D., Marceline, Mo.

WANTED: Today's address of a Doctor who had an office on the north side of O'Fallon Street about two doors east of Broadway in the spring of 1897. At that time he had just arrived from Hot Springs, Arkansas, to practice medicine in St. Louis. He later decided to move to some small Missouri country town. If alive, he would be about 77 years of age. $50.00 reward for above information. All Doctors please help. Address Box 150, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

ATTENTION DISPENSING PHYSICIANS: 400,000 coated and compressed tablets made by Fraser Tablet Co. original bottles 100, 500, 1000 sizes, including Aspirin, Hexameth, Cincophen, Calomel, Strych. Sulph, Triple Bromides, Diuretin, Cascaras, Phenolphthalein, Rhei. and Ipecac Comp, and other standard formulas. Will sacrifice entire lot for $300.00 which is about one quarter present value. Monteith Drug Co., 3676 Lafayette. Grand 8930.

Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only

BUY VICTORY BONDS



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road ***Medical Director*** **Phone Winnetka 211**



For doctors' convenience-

VITAMIN D CONTENT OF FORMULAC INCREASED FROM 500 TO 800 U.S.P. UNITS

IN LINE with customary usage of vitamin D among pediatricians — and in response to requests from leading practitioners—the vitamin D content of FORMULAC Infant Food has been increased from 500 to 800 U.S.P. units.

FORMULAC originally had a vitamin D content of 500 units, more than adequate for the needs of *average* infants. At the request of pediatricians for added protection to cover even *exceptional* cases (such as prematures and others requiring larger amounts of vitamins in their diet) the vitamin D content has been raised 300 U.S.P. units.

For further information about FORMULAC, and for professional samples of this new vitamin-and-mineral fortified Infant Food, mail a card to National Dairy Products Company, Inc., 230 Park Avenue, New York 17, N. Y.

***Distributed by* KRAFT FOODS COMPANY**

NATIONAL DAIRY PRODUCTS COMPANY, INC.

New York, N. Y.

ACCEPTED AMERICAN MEDICAL ASSN.

NATIONAL DAIRY Sealtest PRODUCTS CORP.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for September and October, to which all members are invited, beginning at 1:00 p. m. each clinic, follows:

September 4: Miscellaneous.
September 6: Gynecologic and Genitourinary.
September 11: Skin.
September 13: Breast.
September 18: Gastrointestinal.
September 20: Cervix.
September 25: Skin.
September 27: Head and Neck.
October 2: Miscellaneous.
October 4: Gynecologic and Genitourinary.
October 9: Skin.
October 11: Breast.
October 16: Gastrointestinal.
October 18: Cervix.
October 23: Skin.
October 25: Head and Neck.
October 30: Bone and Lymphomas.

PATIENT SURVIVES TOXOPLASMOSIS

Jerome T. Syverton, M.D., and Howard B. Slavin, M.D., from the Departments of Bacteriology and Medicine, University of Rochester School of Medicine and Dentistry, writing in The Journal of the American Medical Association, report the case of the first adult known to survive the rare and highly fatal disease known as toxoplasmosis. The only other known survivor was a child. The authors state that toxoplasmosis as a disease of man has only been recognized since 1939, there being only 35 reported instances of this disease.

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

INDEX TO ADVERTISERS

Abbott Laboratories 653
Aloe, A. S. Company 638
American Meat Institute 596
Ar-Ex Cosmetics, Inc. 654
Arlington Chemical Co. 641
Ayerst, McKenna & Harrison 622

Borden Co. 636
Bristol Laboratories, Inc. 638
Burroughs Wellcome & Co. 584, 633

Camel Cigarettes 587
Camp, S. H. & Co. 634
Campbell Soup Co. 615
Ciba Pharmaceutical Products, Inc. 590, 659
Coca-Cola Co. 620
Commercial Solvents Corp. 621
Cook County Graduate School of Medicine 644

Denver Chemical Manufacturing Co. 648

Eggert-Carroll-Schroeder Agency 618
Emerson, J. H., Co. 642

Faith Hospital 650

General Electric X-ray Corp. 652
Glenwood Sanatorium 630
Gradwohl School of Laboratory Technique 645

Hamilton-Schmidt Surgical Co. 654
Hanger, J. E., Inc. 645
Hanley, Edmund F., Distributor 654
Holland-Rantos Co. 631
Hynson, Westcott & Dunning, Inc. 628

International College of Surgeons 650
Isle, W. E., Co. 650

Kansas City Southwest Clinical Society 630

Lilly, Eli & Co. 598
Lilly, Eli & Co. ..... Insert
Lov-e Brassiere Co. 632
Luzier's Inc. 640

M & R Dietetic Laboratories, Inc. 643
Major Clinic Association 585
Mead Johnson & Co. 660
Medical Protective Co. 635
Milwaukee Sanitarium 617
Miscellaneous Announcements 656
Mosby, C. V., Co. 626
Mullen Ambulance Co. 650

National Dairy Products Corporation 657
National Pathological Laboratory 658
Norbury Sanatorium 638
North Shore Health Resort 656

Parke, Davis & Co. 582, 583
Phillip Morris & Co. 589
Physicians Casualty Association 644
Pogue, Mary E., School 654
Pregnancy Diagnostic Laboratories 656
Producers Creamery Co. 629

Quincy X-ray & Radium Laboratories 654

Ralph Sanitarium 642
Robinson Clinic 650

Schenley Laboratories 597
Schering Corporation 625
Schieffelin & Co. 624
Schmid, Julius, Inc. 649
Searle, G. D. & Co. 611
Smith-Dorsey Co. 645
Smith, Kline & French Laboratories 595, 637
Squibb, E. R. & Sons 593
Stearns, Frederick & Co. 655
Stokes Sanitarium 654

United-Rexall Drug Co. 651
Upjohn Co. 591
U. S. Brewers Foundation 628
U. S. Savings Bonds 647
U. S. Standard Products 592

Wallace Sanitarium 644
Wander Co. 646
Washington University School of Medicine 656
White Laboratories ..... Insert
Winthrop Chemical Co. 594
Worrell, Dorothy 656

Zemmer Co. 654



Nupercainal, the soothing anesthetic ointment containing 1% Nupercaine, is noted for its sustained effect in the relief of pain associated with the above and other ano-rectal conditions.

Many physicians employ Nupercainal, too, in painful proctological and vaginal examinations.

Available in tubes of 1 ounce with applicator and in jars of 1 pound.

Nupercainal

Nupercainal and Nupercaine...*Trade Marks Reg. U. S. Pat. Off.*

CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT, NEW JERSEY
In Canada: **Ciba Company Limited, Montreal**

Boston Medical Library
8 Fenway

a Poor Scholar . . . because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, — or less — small wonder that he is listless, nervous, or stupid at school.

Pablum offers a happy solution to the problem of the school-child's breakfast. Mothers who learn about Pablum from their physicians are delighted to serve it, for it needs no cooking and can be prepared in a minute at the table — more quickly than many less nourishing foods. Right now, this feature is especially valuable in homes where the mother is engaged in war work. Pablum not only ends the bane of long cooking of cereals but in addition furnishes a variety of minerals (calcium, phosphorus, and iron) and the vitamin B complex. It is an excellent vehicle for milk.

PABLUM is rich in calcium and iron, minerals likely to be deficient in the school-child's diet yet needed in more than average amounts during childhood. Numerous clinical studies have demonstrated that Pablum gives good weight gains and increases hemoglobin values in both normal and sick infants and children. Reprints on request of physicians.

Pablum (Mead's Cereal thoroughly cooked) is a palatable cereal enriched with vitamin- and mineral-containing foods, consisting of wheatmeal, oatmeal, wheat embryo, cornmeal, beef bone, alfalfa leaf, brewers' yeast, sodium chloride and reduced iron. (The oatmeal form of Pablum is called Pabena.)
MEAD JOHNSON & COMPANY, EVANSVILLE 21, IND., U.S.A.



THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 10

OCTOBER, 1946

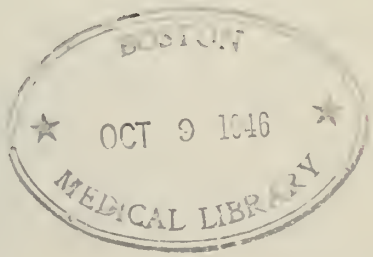
SINGLE COPY, 40 CENTS
PER YEAR, $3.00

19

ORIGINAL ARTICLES

The Significance of Recently Developed Tests of Renal Function
Clinical Correlations Between Renal Disease and Hypertension
Renal Lithiasis: Recent Advances in Treatment
Renal Insufficiency in Diseases Other Than Those of the Kidneys and Urinary Tract
Spontaneous Rupture of the Spleen in Benign Tertian Malaria





EDITORIALS

Hospital Survey and Construction
Streptomycin

(Contents Index Page 665)

SYMBOLS OF SIGNIFICANCE

MAPHARSEN



• *"4 plus"* implies exposure, infection and a therapeutic need. MAPHARSEN* has filled the requirement for a relatively safe, antiluetic agent of unquestioned and proved efficacy in case after case, in country after country, in civilian life and for the military services, year in and year out—building an unmatched record of therapeutic performance.

MAPHARSEN is one of a long line of Parke-Davis preparations whose service to the profession created a dependable symbol of significance in medical therapeutics—MEDICAMENTA VERA.

MAPHARSEN (3-amino-4-hydroxy-phenyl-arsineoxide hydrochloride) in single dose ampoules of 0.04 Gm. and 0.06 Gm.; boxes of 10 ampoules. Multiple dose, hospital size ampoule of 0.6 Gm.

*Trademark Reg. U.S. Pat. Off.

MEDICAMENTA VERA · PD & CO.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN



Dawn of new hope in petit mal . . .

New hope for thousands of children languishing under the social and educational handicaps imposed by petit mal is offered by Tridione, a product of Abbott research which has been proved effective in the treatment of numerous petit mal cases *in which other forms of medication were unsuccessful.* For example, in one group of 50 patients subject to frequent petit mal, myoclonic or akinetic seizures not helped by previous treatment, Tridione eliminated the seizures in 28 percent, reduced them to less than one-fourth of the usual number in 52 percent, and caused little or no change in 20 percent.[1] In several cases the seizures once stopped *did not return* when medication was discontinued. Tridione also has been of value in the treatment of certain psychomotor cases when used in combination with other medication.[2] You may obtain Tridione in 0.3-Gm. capsules in bottles of 100 and 1000. If you wish literature on Tridione, we shall be pleased to send it to you. ABBOTT LABORATORIES, North Chicago, Illinois.

Tridione

REG U S PAT OFF

(3,5,5-TRIMETHYLOXAZOLIDINE-2,4-DIONE, ABBOTT)

1. Lennox, W. G. (1945), Petit Mal Epilepsies: Their Treatment with Tridione, J. Amer. Med. Assn., 129:1069, December 15.
2. DeJong, R. N. (1946), Effect of Tridione in the Control of Psychomotor Attacks, J. Amer. Med. Assn., 130:565, March 2.

CONTENTS

The Significance of Recently Developed Tests of Renal Function. W. H. Olmsted, M.D., St. Louis 677

Clinical Correlations Between Renal Disease and Hypertension. Edward Massie, M.D., St. Louis.. 680

Renal Lithiasis: Recent Advances in Treatment. D. K. Rose, M.D., St. Louis..... 682

Renal Insufficiency in Diseases Other Than Those of the Kidneys and Urinary Tract. Edward H. Reinhard, M.D., St. Louis..... 693

Spontaneous Rupture of the Spleen in Benign Tertian Malaria. William W. Fellows, M.D., Aspinwall, Pa. 699

Abstracts and Digests—
Tuberculosis Abstracts 702

Book Reviews 705, 712

Editorials—
Hospital Survey and Construction..... 707
Streptomycin 707

News Notes 710

Deaths 710

Miscellany—
Cancer Clinics at the Ellis Fischel State Cancer Hospital 711
Attempts Being Made to Secure Narcotics..... 712

Society Proceedings 712

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Harrison H. Shoulder, Nashville.
President-Elect, Olin West, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgraduate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D. Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—H. I. Spector, St. Louis, Chairman (1948); R. R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, *Iron*, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.

Doctor—Judge

PHILIP MORRIS suggests *you* judge . . . from the evidence of your own *personal* observations . . . the value of PHILIP MORRIS Cigarettes to your patients with sensitive throats.

PUBLISHED STUDIES* SHOWED WHEN SMOKERS CHANGED TO PHILIP MORRIS SUBSTANTIALLY EVERY CASE OF THROAT IRRITATION DUE TO SMOKING CLEARED COMPLETELY, OR DEFINITELY IMPROVED.

But naturally, no published tests, no matter how authoritative, can be as completely convincing as results you will observe for yourself.



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, NEW YORK, N. Y.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154.*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60.

TO THE DOCTOR WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethony
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	Morris Leech	Fayette	Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	Thomas A. Donnell	DeSoto
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	B. E. Ellis	Gideon	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Maryville	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford-Dent-Pulaski	9	G. E. Joseph	Salem	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield



Nothing more Natural..

than the menopause nor the use of *natural* estrogens for true replacement therapy. Amniotin, a *complex* of natural estrogens, has a seventeen year record of safety and effectiveness in the menopausal syndrome. A wide range of forms and potencies permits notable flexibility and *precision* in dosage. The objective of using "the minimum dosage at the longest possible intervals compatible with control of symptoms"[1] is readily attained. Once symptoms are controlled parenterally, the patient may be easily maintained orally on a gradually reduced dosage. Amniotin is highly purified, standardized in International Units.

1. Watson, B. P.: J. Clin. Endocrinology 4:571 (Dec.) 1944.

Amniotin
TRADEMARK

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

a long pull for long bones



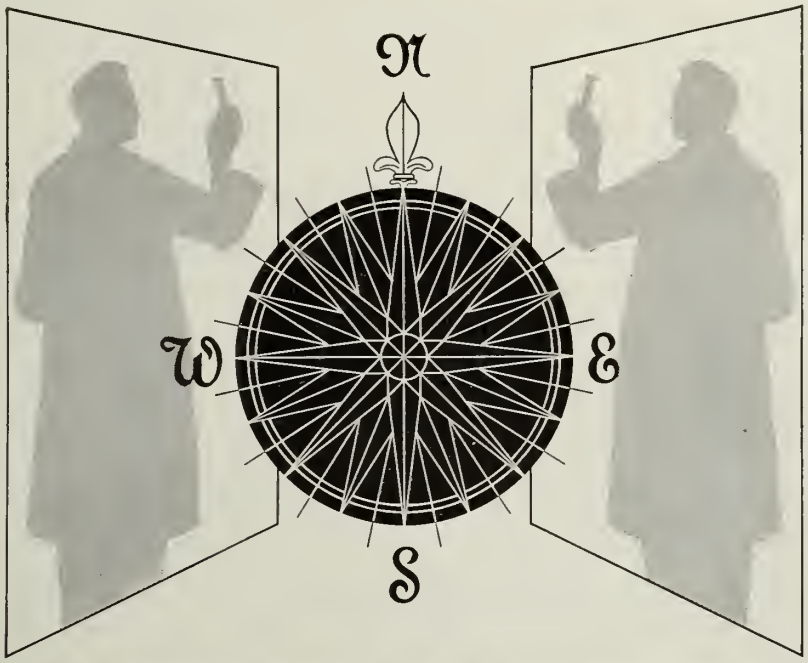
With bones in the process of most rapid growth at least through the 14th year, the requirements for vitamin D must be met unfailingly for as long as growth persists. The discovery of rickets in 46.5% of children between the ages of 2 and 14 in careful histologic studies[1] gives unequivocal proof of the necessity for such continued supplementation. Upjohn vitamin D preparations supply all—natural vitamin D, plus ample vitamin A, in highly potent, convenient, well tolerated, and economical supplements.

1. Am. J. Dis. Child. 66:1 (July) 1943.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS



Direction in Research

What a pharmaceutical manufacturer produces and makes available to the practicing physician is fully as important as the methods and safeguards employed.

While in many laboratories the search for that rarest of drugs—the "ideal specific"—continues, the procession of today's problems still scuffs the waiting-room carpet. Johnny's sore toe—old Mrs. Brown's asthma—Mr. Clark's ulcer—Lucy, the frail war bride, not too good a risk in an impending delivery.

To thumb through the files of the average sincere prescription pharmacist is to discover how often the old and time-tried drugs are used. And how much of adjustment and adaptation are needed to fit commercially available formulae in potency and in content to meet current requirements.

At U. S. Standard Products, research is, of course, directed towards bringing the physician the best of the new—conservatively evaluated. But a due and considerable share of time, skill, judgment and experience is devoted to providing the medicaments we have now—in new combinations of content and potency of immediate practical utility.

Physicians are realizing this in ever increasing numbers, and on more and more prescriptions U. S. Standard Products are being specified.

OUTSTANDING U.S. STANDARD BIOLOGICALS:

DIPHTHERIA TOXOID
•
TETANUS ANTITOXIN
•
SMALLPOX VACCINE
•
TYPHOID VACCINE

Also a representative list of glandular products and pharmaceuticals.

946 Merchandise Mart
CHICAGO, ILLINOIS

19 No. 4th Street
COLUMBUS 15, OHIO

208 Reilly Bldg.
St. Paul and San Jacinto Streets
DALLAS, TEXAS

124 W. 4th Street
I. W. Hellman Bldg.
LOS ANGELES 13, CALIFORNIA

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U.S.A.

Why do Tom, Dick and Harry need Vitamin D?



Growing children require vitamin D mainly to prevent rickets. They also need vitamin D, though to a lesser degree, to insure optimal development of muscles and other soft tissues containing considerable amounts of phosphorus . . . Milk is the logical menstruum for administering vitamin D to growing children, as well as to infants, pregnant women and lactating mothers. This suggests the use of Drisdol in Propylene Glycol, which diffuses uniformly in milk, fruit juices and other fluids.

ACCEPTED AMERICAN MEDICAL ASSN.

DRISDOL IN PROPYLENE GLYCOL

TRADEMARK REG U S. PAT. OFF & CANADA

Brand of Crystalline Vitamin D_2 (calciferol) from ergosterol

MILK DIFFUSIBLE VITAMIN D PREPARATION

Odorless Tasteless Economical

Average daily dose for infants 2 drops, for children and adults 4 to 6 drops, in milk.

Available in bottles of 5, 10 and 50 cc. with special dropper delivering 250 U.S.P. units per drop.

WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician • New York 13, N.Y. • Windsor, Ont.



Truly, this is America . . . Town Meeting

It's no accident that the most typical of our institutions is also one of the oldest . . . and ablest.

"THE MEETING will please come to order."

In town meeting nobody talks just to hear the sound of his own voice. Conviction is carried by faith and sincerity.

Because such meetings are so utterly American, they typify qualities most deeply ingrained in our national character . . . freedom of the individual . . . reverence for skill and accomplishment . . . the awe akin to worship that surrounds—for example—the community physician.

It is he who brings the best thinking of the medical profession, the newest findings of the laboratory technicians, to bear on the health problems of the individual . . . he who utilizes the most valuable contributions to medical knowledge from all over the world.

There may be higher offices than that of doctor. But there is no position of greater trust . . . no career which demands more of the individual, the unfettered but trained mind. And it is as completely free individuals that our men of medicine have made their world mark.

IN NEW JERSEY there's a typically inviting community where many of the medical profession's fine pharmaceuticals are produced in the laboratories of Ciba . . . where Ciba's own medical researchers hunt relentlessly for improved aids to the family physician.



CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT NEW JERSEY



Still the fatal first month

Despite the gratifying dramatic decline in infant mortality, *there is still only slight reduction in the number of deaths of infants under one month.* During these critical 30 days, among the important precautions to be exercised is the right start on the right foods.

'Dexin' has proved an excellent "first carbohydrate". Because of its high dextrin content, it resists fermentation by the usual intestinal organisms, tends to hold gas formation, distention and diarrhea to a minimum, and promotes the formation of soft, flocculent curds facilitating digestion of milk proteins.

Easily prepared in hot or cold milk, 'Dexin' brand High Dextrin Carbohydrate is palatable but not too sweet. 'Dexin' *does* make a difference.

'Dexin' Reg. Trademark

'Dexin' HIGH DEXTRIN CARBOHYDRATE
BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N.Y.



Young Man in White

● You may call him an "interne," but in name and in fact he's every inch a doctor.

He has his textbook education . . . his doctor's degree. But, in return for the privilege of working side by side with the masters of his profession, he will spend a year—more likely two—as an active member of a hospital staff.

His hours are long and arduous . . . his duties exacting. But when he finally hangs out his coveted shingle in private practice he will be *a doctor with experience!*



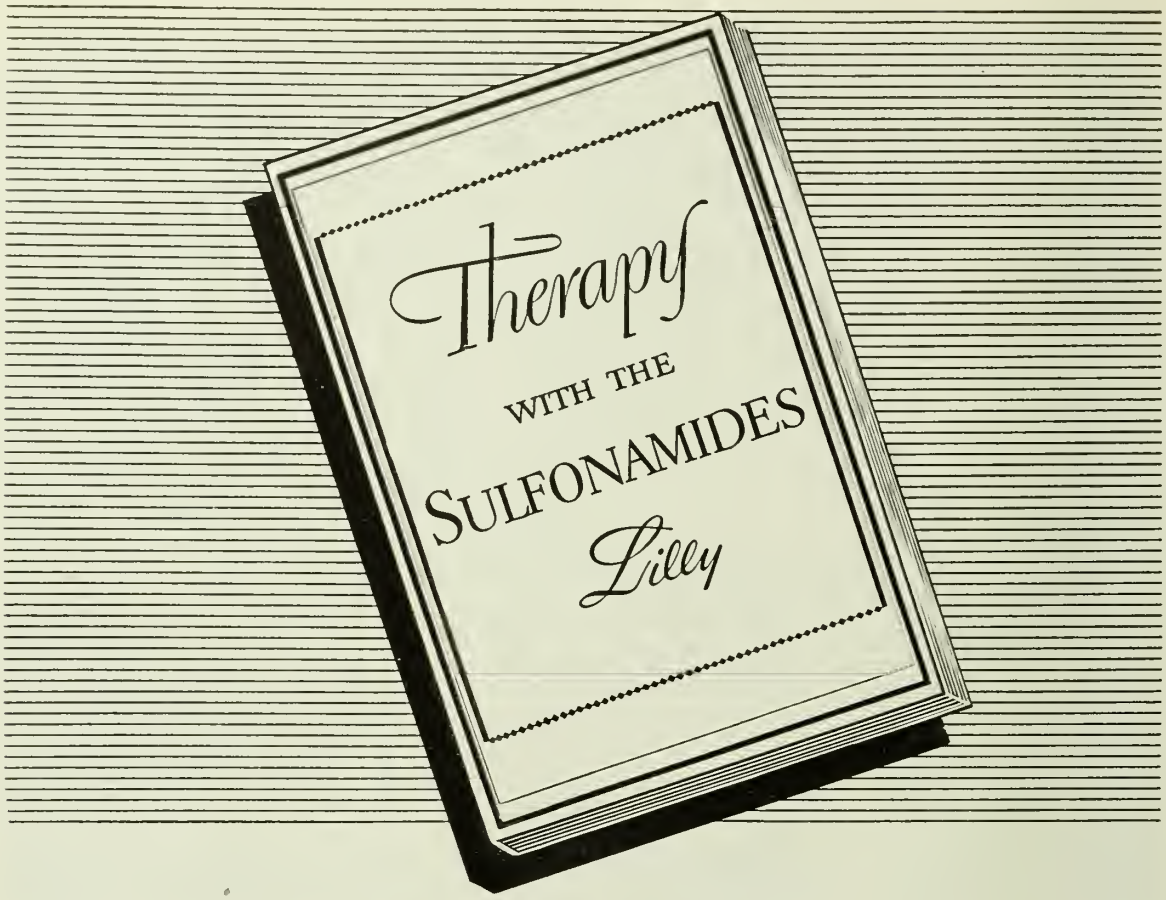


According to a recent independent nationwide survey:

More Doctors Smoke Camels

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.



Therapy with the Sulfonamides

In 1937 sulfanilamide was introduced into general clinical use. During the next six years sulfapyridine, sulfathiazole, sulfadiazine, and sulfamerazine followed in rapid succession. The vast clinical literature which has accumulated in the interval has been carefully organized and condensed by the Lilly Research Laboratories into an eighty-three-page book entitled *Therapy with the Sulfonamides*. A bibliography of 323 references is included. The discussion is divided between systemic and local administration. Many helpful charts, including "Sulfonamides in Order of Choice for Systemic Use," "Dosage of Sulfonamides for Adults," and "Dosage of Sulfonamides for Infants and Children," are included. Request a free copy of *Therapy with the Sulfonamides* from the Lilly medical service representative or direct from Indianapolis. Sulfonamides, Lilly, for systemic and local administration are provided in a complete variety of dosage forms, subject to your specifications.

Lilly

Eli Lilly and Company, Indianapolis 6, Indiana, U. S. A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 — OCTOBER, 1946 — NUMBER 10

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

SYMPOSIUM ON THE KIDNEY AND HYPERTENSION

THE SIGNIFICANCE OF RECENTLY DEVELOPED TESTS OF RENAL FUNCTION

W. H. OLMSTED, M.D.
ST. LOUIS

In this paper I will first review what seems a minimum of anatomic and physiologic facts necessary to the understanding of the value of recently developed tests of kidney function. Then I will attempt to give the elementary and essential principles underlying the use of these tests.

The study of the function of the kidney emphasizes the unusual capillary circulation of that organ. The circulation through the glomerulus for the purpose of forming an efficient filter is the first part of two separate capillary networks. Necessarily, the exit from the glomerulus by means of the efferent arteriole separates the capillaries of the glomerulus from those surrounding the tubules. Of the blood flowing through these two capillary systems, about 20 per cent is in the glomerulus and 80 per cent circulating about the tubules at any one time. Owing to this anatomic double capillary circulation, the lesions of the glomerular capillaries necessarily must influence to a great extent the flow of blood through the peritubular capillaries. Thus when a glomerulus becomes avascular, the circulation to its own tubules ceases to a major extent. Also, if there is an arteriosclerotic process in the afferent arteriole, the circulation through the glomerulus and its tubules is cut down and one is reminded that the afferent arteriole is affected by the arteriosclerotic process occurring in the latter stages of hypertension.

On the other hand, when there is a spasm in the efferent arteriole the functions of the glomerulus are not impaired to any extent while the circulation of blood of the capillaries through its tubules may be greatly diminished. There is much evidence to the effect that the decrease in circulation through the kidney in hypertension is due to constriction of the efferent arteriole.

Another interesting fact is brought out by the study of the effect of drugs on the two circulatory networks. Adrenalin causes spasm of the efferent arteriole because it has been shown that this drug does not interfere with the filtering function of the glomerulus but does decrease the circulation through the capillaries of the tubules. On the other hand, pyrogenic materials which cause dilatation of the capillaries about the tubules and increased circulation, also do not affect the function of the glomeruli. Apparently, there is reason to believe that the two capillary networks may respond differently to various stimuli.

There is every reason to believe that the filtrate from the glomerulus is composed of all organic and inorganic molecules of a size less than that of the blood protein so that the fluid of the filtrate contains all of the constituents of the blood with the exception of the large protein molecules. Furthermore, an essential fact to bear in mind is that the glomerular capillary tuft is merely a filtering device that filters off the nonprotein constituents of the blood exactly as if it were a piece of filter paper such as is so constantly used in the chemical laboratory. Since this is so the concentration of the filterable constituents of the blood appear in exactly the same concentration in the filtrate as they exist in the plasma. But, as the glomerular fluid passes to the proximal tubules some of these materials are reabsorbed and there is reason to believe that in amphibious animals at least sugar is absorbed in this section of the nephron; that water is absorbed mainly in the loop of Henle, and that salt is absorbed mainly in the distal tubule. But, the exact location of the absorption of various constituents

Presented at the 88th Annual Session of the Missouri State Medical Association, St. Louis, March 24, 25, 26, 1946.

of the glomerular filtrate has not been completely worked out.

As a result of the reabsorption of a portion of most of the constituents of the glomerular filtrate, the filtrate becomes concentrated but mainly, however, because of the reabsorption of water. Under normal physiologic conditions 170 liters of glomerular filtrate leave the glomerular tufts but only 1 or 2 liters of urine are voided in twenty-four hours.

Glucose is, of course, reabsorbed completely while creatinine is not absorbed at all. Between these extremes there is a specific reabsorption rate for some of the constituents; for instance, that for urea being from 30 to 40 per cent. The rate of reabsorption of some other constituents, for instance the electrolytes, depends on factors outside the kidney.

Besides reabsorption, the tubules are capable of excretion; that is, the removal of substances from the blood and the excretion of these substances directly into the lumen of the tubule. It is well known that certain fishes have no glomeruli and therefore the function of their tubules is entirely excretory; but in mammals almost all of the tubular function is reabsorption and the only normal constituent which may be excreted is creatinine.

THE SIGNIFICANCE OF INULIN EXCRETION

Inulin is a starch made up of fructose molecules. Its atomic weight is 5,000 and it can easily pass through the glomerular membrane. Its unusual property is that it is an inert substance—not only as far as the kidney tubules are concerned but also in its relation to the rest of the body. Thus it is filtered out of the blood stream without any other processes taking place. The concentration of inulin in the glomerular filtrate is exactly the same as its concentration in the blood plasma. If one determines its concentration in the blood plasma and also the amount of inulin excreted in the urine in one minute's time, it is easy to calculate the total volume of the glomerular filtrate. Thus the total amount of inulin in the urine excreted in one minute divided by its concentration in the glomerular filtrate (plasma), gives the minute volume of the glomerular filtrate. The calculation of the minute volume of glomerular filtrate means also the minute volume of blood flowing through the glomeruli. Thus the rate of inulin excretion gives the investigator a means of determining the volume of glomerular filtrate and at the same time also the volume of plasma or blood passing through the glomeruli in a unit of time.

TUBULAR CIRCULATION AS DETERMINED BY DIODRAST

Since inulin excretion only gives information about the circulation through the glomeruli, there is needed a test for the circulation of blood through the capillary network surrounding the tubules. For this purpose physiologists use diodrast. This substance is an organic iodine compound which urologists use for the visualization of urinary tract. It is because of the great affinity the tubular epithelium possesses for this substance that it is of use to both urologist and physiologist. When it is injected at a low concentration the kidney tubules remove it completely in one circulation of blood through the kidney. It is removed by the tubular epithelium and excreted. It is known that the tubular epithelium can remove it completely from the arterial blood because venous blood leaving the kidney contains no diodrast. If then this compound when injected in low concentrations is completely removed from the blood, it is possible to calculate the amount of blood circulating through the tubular capillaries. Thus the rate of excretion of diodrast is a test of the circulation rate through the peritubular capillaries. Since the rate of inulin excretion is an index of glomeruli circulation and the rate of diodrast excretion that of the circulation through the tubular capillaries, there is a means of studying the relationships between the two capillary networks of the kidney. These methods make possible the demonstration that in hypertension the circulation through the glomerulus is normal whereas that through the tubular capillaries is greatly reduced. This is a fact of great importance and it indicates that in hypertension there must be constriction of the efferent arterioles as they emerge from the glomerular tufts. In no other way can the difference in the circulation of blood through the two capillary networks be explained. As a result of this difference in the circulation in hypertension through the glomerulus as contrasted to the circulation about the tubules, one would expect in hypertension that the function of the glomerulus would remain good while the functions of the tubules be impaired. Such actually is the case.

TUBULAR FUNCTIONS

The determination of the function of the tubules can be established in two ways: First, by the determination of the rate of reabsorption of the normal constituents of the glomerular filtrate; such, for instance, as glucose, or secondly, by the excretion of foreign substances injected into the blood, such as dyes (phenolsulfonphthalein) or organic iodine compounds such as diodrast or para-amino hippuric acid. The use of these foreign substances is better for the determination of tubular function than tests for reabsorption. This is so because it has been shown that the excretion of the foreign substances is impaired at an earlier stage in the course of kidney disease than is reabsorption of glucose. I will confine this discussion to the excretion of diodrast but what is said concerning it is also true for para-amino hippuric acid. The determination of tubular function depends upon the injection of diodrast so that its concentration in the blood will be from five to ten times as great as its concentration when it is used to determine the rate of circulation through the tubular capillaries. The concentration is such that the tubules cannot excrete all the diodrast brought to them by the blood. In other

words, the tubular epithelium is heavily overloaded with work and stimulated to exert a maximum degree of excretion of this substance. Every healthy tubular epithelial cell will be taxed to its capacity to excrete the iodine compound. Under such circumstances, then, the amount of organic iodine excreted will be proportional to the total mass of active excreting tubular epithelia. The greater the mass of healthy tubules, the more iodine will be excreted, and conversely the greater the injury to the tubular epithelium the less iodine will be excreted. Thus by this method of overloading the tubular epithelium one has a way of determining the total mass of functioning tubular epithelium.

In summary, then there are methods for the determination of (1) the amount of the glomerular filtrate, (2) the amount of blood circulating through the glomeruli, (3) the amount of blood circulating about the tubules, and (4) the amount of functioning tubular epithelium.

CLEARANCE

I have avoided up to this time any reference to the word "clearance" for I feel, wisely or not, that the principles for the use of these tests could be better grasped without reference to that term. However, it is a term which is used by all physiologists, and the meaning of which should be made clear.

Homer Smith defines clearance as "the minimum volume of blood required to furnish the quantity of a substance excreted in the urine in one minute of time." The most simple expression of this definition is the equasion: amount of X secreted in the urine in one minute divided by the concentration of X in the blood. Clearance is a term which expresses the rate of urinary excretion in terms of the volume of blood containing the amount of the substance excreted. In the case of inulin, its clearance as calculated gives the quantity of plasma that is circulating in one minute's time through the glomeruli. Since the concentration of any filterable substance is the same on both sides of the glomerular membrane, the amount of blood plasma circulating through the glomeruli is exactly the same as the amount of glomerular filtrate. Hence, inulin clearance (C_I) is both the expression of the amount of plasma circulating through the glomeruli and the amount of glomerular filtrate.

When diodrast is injected at low concentration, its clearance indicates the volume of blood circulating about the tubular epithelium which has been completely freed of diodrast. Thus, diodrast clearance (C_D) becomes the expression of blood flow through the tubules. Low clearance of diodrast means ischemia of the kidney, and higher than normal diodrast clearance means hyperemia of the kidney.

When diodrast is injected in high concentrations, clearance cannot be calculated because in that case the test is one of overloading the tubular epithelium with work so that the weight of diodrast or iodine excreted in one minute is directly proportional to the functional mass of the renal epithelium (TM_D). When speaking of tubular function as determined by diodrast, one must remember that one is testing the excretory ability of the epithelium, and this has no direct relationship to the function of the tubular epithelium when tested by the reabsorption of normal constituents of the blood. As a matter of fact, in hypertension, excretory function by the tubules is impaired in an early stage of the disease whereas the function of the epithelium tested by overloading it with glucose is not reduced until a very late stage of the disease. The usefulness of diodrast as a test for epithelial function is based on the fact that it is far more sensitive an index to disease than tests based on reabsorption.

TECHNIC

The technic of applying inulin and diodrast clearances, and of determining the total tubular excretory mass by diodrast are by no means simple. The inulin and diodrast solutions must be infused intravenously at a constant rate so that the volume and rate of injection can be measured accurately. Urine must be obtained by catheter and the bladder washed out carefully at the termination of each period of time. Blood must be drawn at timed intervals which are arranged so that the concentration of the drugs will be known at any time during the experiment. A three-man team is kept busy collecting blood, urine and supervising the intravenous infusions. Although such an elaborate setup is essential for obtaining accurate physiologic data on the normal kidney or in its diseased state, it is not suitable for clinical routine work in the hospital.

Simplified methods have been proposed and used by Findley, Edwards, Clinton and White, Foá and Foá, and Landowne and Alving. The experience in the use of the clinical application of these methods, as applied by the observers mentioned, is as yet too small to warrant an opinion as to the accuracy of the methods but there is little doubt but that the principles underlying the use of inulin and diodrast are physiologically sound and that the information derived from their use has advanced greatly the understanding of kidney function in health and disease. I believe it certain, further, that the clinical application of these tests will enable the clinician in the future to evaluate more clearly the loss of function of the kidney than the use of the tests which are now used in the clinic.

3720 Washington Ave.

BIBLIOGRAPHY

1. Chasis, H.; Ranges, H. A.; Goldring, W., and Smith, H. W.: The Control of Renal Blood Flow and Glomerular Filtration in Normal Man, J. Clin. Investigation **17**:683, 1938.
2. Findley, T.; Edwards, J. C.; Clinton, Etta, and White, H. L.: Clearance of Diodrast, Phenolsulfonphthalein and Inulin in Hypertension and in Nephritis, Arch. Int. Med. **70**:935, 1942.
3. Findley, T., and White, H. L.: Measurement of Diodrast and Inulin Clearances in Man After Subcutaneous Administration, Proc. Soc. Exper. Biol. & Med. **45**:623, 1940.
4. Findley, T.; Edwards, J. C.; Clinton, Etta, and White, H. L.: A Simplified Technique for Measuring Renal Blood

Flow and Tubular Excretory Mass, J. Lab. & Clin. Med. 28:916, 1943.
5. Foá, O. P.; Woods, W. W.; Peet, M. M., and Foá, Naoml: Effective Renal Blood Flow, Glomerular Filtration Rate and Tubular Excretory Mass in Arterial Hypertension, Arch. Int. Med. 69:822, 1942.
6. Foá, P. P., and Foá, Naomi, L.: A Simple Method for Determining Effective Renal Blood Flow and Tubular Excretory Mass in Man, Proc. Soc. Exper. Biol. & Med. 51:375, 1942.
7. Goldring, W.; Chasis, H.; Ranges, H. A., and Smith, H. A.: Effective Renal Blood Flow in Subjects With Essential Hypertension, J. Clin. Investigation 20:655, 1941.
8. Goldring, W., and Chasis, H.: Hypertension and Hypertensive Disease, The Commonwealth Fund, New York, 1944.
9. Landowne, M., and Alving, A. S.: A Clinical Method of Determining the Specific Renal Functions of Glomerular Filtration, Maximal Tubular Excretion or Reabsorption (and "Effective Blood Flow"), Using a Single Injection of a Single Substance, Proc. Cent. Soc. Clin. Research 18:5, 1945.
10. Smith, H. W.; Goldring, W., and Chasis, H.: The Measurement of the Tubular Excretory Mass, Effective Blood Flow and Filtration Rate in the Normal Human Kidney, J. Clin. Investigation 17:263, 1938.
11. Smith, H. W.: The Physiology of the Kidney, Oxford University Press, New York, 1937.
12. Tabbott, J. H.; Castleman, B.; Smithwick, R. H.; Melville, R. S., and Pecora, L. J.: Renal Biopsy Studies Correlated With Renal Clearance Observations in Hypertensive Patients Treated by Radical Sympathectomy, J. Clin. Investigation 22:387, 1943.
13. White, H. L., and Heinbecker, P.: Observations on Inulin and Diodrast Clearances and on Renal Plasma Flow in Normal and Hypophysectomized Dogs, J. Am. Physiol. 130: 464, 1940.

CLINICAL CORRELATIONS BETWEEN RENAL DISEASE AND HYPERTENSION

EDWARD MASSIE, M.D.
ST. LOUIS

In the clinical investigation of a patient with arterial hypertension it is not uncommon to discover evidences of renal disease. It is the purpose of this article to examine the various diagnostic and therapeutic problems raised by the occurrence of a renal lesion in a patient with hypertension.

In the last decade new renal function and hemodynamic methods applicable to man have been developed and have yielded data of sufficient importance to throw new light on some aspects of hypertensive and renal disease. The methods of measuring renal blood flow in man now permit examination of the question as to whether or not renal ischemia is the primary event in hypertension. Methods for measurement of rate of glomerular filtration and for measurement of maximal tubular capacity have made it possible to examine renal function in more detail. In addition, the use of the right heart catheterization method in estimating cardiac output combined with direct arterial blood pressure measurements has been a means of measuring over-all peripheral resistance and of examining some of the fundamental hemodynamic alterations in hypertensive disease in man.

Fundamentally, there are three possible relationships between kidney disease and hypertension.

1. Renal lesions might produce elevated blood pressure secondarily.

2. Hypertension might result in renal disease secondarily.

3. Other diseases might produce both elevated blood pressure and renal disease simultaneously.

From the Department of Internal Medicine, Washington University Medical School.
Presented at the 88th Annual Session of the Missouri State Medical Association, St. Louis, March 24, 25, 26, 1946.

RENAL LESIONS RESULTING IN HYPERTENSION

Various conditions of primary disorders of the kidneys result in hypertension, especially in the latter stages of the disease. Included in this category are glomerular nephritis, pyelonephritis, polycystic disease, obstructive lesions of the urinary tract and renal arterial obstruction. Such conditions as disseminated lupus, periarteritis nodosa and associated syndromes are accompanied by hypertension, usually when the patient is well on the road to renal failure.

The mechanism by which renal disease elevates arterial blood pressure is not established, although the renal mechanism as a primary factor in the genesis of hypertension in man can be accepted in bilateral intrinsic renal disease. The renal genesis of hypertension also can be accepted in man in those rare instances when the pathologic process is analogous in its effect to the procedures used in the production of experimental renal hypertension.

In recent years, much attention has been paid to unilateral renal lesions as a cause of hypertension. The usual renal pathologic picture in such cases is that of atrophic pyelonephritis. Pyelonephritis is often mistaken for chronic glomerulonephritis because in the chronic, latent phase it may resemble closely the latter disease. As the condition of pyelonephritis progresses there results a gradual renal impairment with all the characteristics of advanced glomerulonephritis; namely, hypertension, uremia, vascular and cardiac changes and anemia. If the disease is limited to one kidney, the clinical picture will be the same except that the remaining kidney usually will carry on the necessary excretion of nitrogenous matter unless or until resultant hypertension and vascular changes impair its function. If unilateral atrophic pyelonephritis is detected early and if the involved kidney is removed surgically, the blood pressure may be restored to normal range and the progress of the disease checked. If the disease, however, has progressed sufficiently to cause vascular damage and impairment of the other kidney, the results of removal of a unilateral atrophic kidney not only will not relieve the hypertension but might even place the patent in a more precarious position if the removed kidney had any function at all.

Experimentally, complete removal of both kidneys causes little or no increase in arterial pressure. Clinically, hypertension is rare in acute anuria and is uncommon in some varieties of chronic renal diseases which include the "surgical" types of kidney disease, amyloidosis, renal lesions in multiple myeloma, subacute bacterial endocarditis, and the nephrotic stage of glomerulonephritis.

HYPERTENSION RESULTING IN RENAL DISEASE

In the advanced stages of essential hypertension, it is quite difficult or even impossible to tell by the clinical and laboratory findings alone whether the primary condition was glomerulonephritis or essential hypertension. Structural alterations in the

arterioles and small arteries of the kidneys are almost invariably present in patients who die in the course of hypertensive disease regardless of the cause. This fact was a major consideration in the development of the concept that essential hypertension had its origin in renal ischemia.

The vascular changes in essential hypertension may be of two kinds, corresponding roughly to the size of the involved vessels. First, renal arterioles participate in the generalized arteriolar construction which is intimately associated with the causation of hypertension, and also suffer the medial hypertrophy which occurs somewhat in the development of the disease. Secondly, increased arterial tension initiates and accelerates atherosclerosis leading to the eventual complications encountered in the hypertensive patient.

These renal vascular changes may add a significant factor to hypertension originating elsewhere in the body and produce progressive changes in renal function and renal hemodynamics, the rate of progress varying in different patients. In the majority of hypertensive patients the progress is slow, extending over a period of years, and even then there may not be marked deterioration of renal function. In other patients the rate is rapid, the complete cycle from normal function to death from renal insufficiency occurring in a period of months. The resultant renal arteriosclerosis and not the hypertension, *per se*, is the lesion responsible for the abnormal urine of the hypertensive patient.

ESSENTIAL HYPERTENSION

High blood pressure follows gross renal disease in only a small minority of all hypertensive patients and is even more rarely associated with other etiologic factors such as tumors of the adrenal medulla and pituitary gland or coarctation of the aorta. The great majority of the hypertensive patients belong to the groups of essential hypertension which may be present when careful investigation fails to uncover a reason for the elevated blood pressure.

Some fundamental cause must be present for the establishment of hypertension. High blood pressure may be considered the sign representing the alteration in hemodynamics, and hypertensive disease is the clinical entity in which an unknown pressor mechanism initiates arteriolar vasoconstriction, elevated blood pressure and vascular sequelae. Although a metabolic imbalance in the kidneys may initiate the development of the disease, renal ischemia appears unlikely to be the major factor. The arteriolar lesions found in the kidneys at necropsy are usually absent in the early stages of the disease. The nervous element in hypertension has been emphasized increasingly and very recent reports have pointed out that disease of the nervous system in man, and experimental changes of the nervous system in animals, may produce elevated blood pressure. It is quite probable that the primary etiologic disturbance in hypertension is functional in nature.

DISORDERS RESULTING IN HYPERTENSION AND RENAL DISEASE SIMULTANEOUSLY

Blood pressure and the kidneys may be involved simultaneously in the presence of a third condition. Such an example is intercapillary glomerulosclerosis, a renal lesion found in older patients with initial and usually mild diabetes occurring together with hypertension, albuminuria, edema due to hypoproteinemia and renal failure. Hypertension occurring in pregnancy is another example in which, through some unknown manner, elevated blood pressure and a renal lesion coexist at the outset. This condition, which may be termed pre-eclampsia, may be a manifestation of a specific form of hypertensive disease peculiar to pregnancy or of pre-existing essential hypertension or pre-existing renal disease. The specific hypertensive disease usually occurs in the last trimester of pregnancy and is manifested by hypertension, edema and proteinuria; infrequently, convulsive seizures may be superimposed or coma may occur in the absence of convulsive episodes. Complete subsidence of the clinical signs usually follows termination of pregnancy. The hypertension occasionally may continue in the absence of either proteinuria or edema and eventually may present a clinical picture indistinguishable from essential hypertension. Proteinuria alone may persist for many months in some patients.

DIFFERENTIAL DIAGNOSIS

In dealing with the individual patient presenting both hypertension and renal disease, there are many common pitfalls which may be encountered in attempting to reach a specific diagnosis. Ample consideration must be given to all information obtainable including family and personal histories, physical findings and laboratory results.

Family History.—A high incidence of hypertension or its cardiac or cerebral complications speaks in favor of essential hypertension. Repeated deaths from kidney trouble may suggest familial tendency to polycystic kidneys.

Personal History.—The past history may be useful in evaluating the significance of renal disorders associated with hypertension. Importance must be given to the consideration as to whether albumin in the urine was found before or after hypertension in previous examinations. Such questioning remarks directed to determine the presence in the past history of possible difficulty with pregnancy in the last trimester (pre-eclampsia), frequent sore throats associated with bloody or smoky urine (glomerulonephritis), frequent or burning urination associated with chills, fever or backache (pyelonephritis), severe colicky pain radiating to the genital region with or without bloody urine (renal stone), are especially important if answered with affirmation and may give the clue as to whether

a renal lesion found with hypertension is a complication or plays an etiologic role in the causation of the elevated blood pressure.

Physical Findings.—The examination should be directed both to determine a possible reason for the hypertension and to evaluate the changes wrought by the hypertensive disease. Actually, the examination usually is performed primarily for evaluation since such etiologic factors as coarctation of the aorta and polycystic kidneys are encountered so rarely. Attention is particularly directed toward analysis of the cardiac status and for signs of cerebral, retinal and peripheral arteriosclerosis.

Laboratory Findings.—The laboratory studies which are most important in understanding the majority of patients with renal and hypertensive disease are careful urinalyses, tests of renal function and intravenous pyelograms. Other studies such as total and fractional blood proteins (to determine the presence of elevated serum globulin in disseminated lupus or the periarteritis group) are indicated in the infrequent case as also are roentgen rays of the chest to inspect for notched ribs or a less prominent aortic knob characteristic of coarctation of the aorta. The chest roentgen ray is more particularly useful in determining the degree and kind of cardiac enlargement and possibly in calling attention to hitherto unsuspected pulmonary congestion. The electrocardiogram, like the roentgen ray, serves to demonstrate possible cardiac changes associated with hypertension and does not help in the differential diagnosis of the patient in this case.

It must be emphasized that normal urine occurs even when a renal factor is important in the causation of hypertension and is encountered in the so-called "healed," but by no means cured, stage of chronic pyelonephritis and with a complete obstruction of one ureter. The urine of chronic glomerulonephritis is indistinguishable from that of renal arteriosclerosis following essential hypertension. In contrast, however, early in glomerulonephritis the predominance of red cell casts and red cells over leukocytes confirms the diagnosis, but later red cell casts are found only after a careful search. Large numbers of white cells in a catheterized or clean voided urine and moderate to small degrees of albumin with or without red cells suggest pyelonephritis. In the nephrotic stage the urine is full of albumin, hyaline casts with fat droplets and renal tubule cells packed with fat bodies.

Tests of renal function serve primarily to give some idea as to the degree of renal involvement. In addition, however, since in hypertension all possible therapeutic approaches must be kept in mind, decision must be made whether the patient presents the infrequent but always possible occurrence of renal disease in only one kidney as in unilateral pyelonephritis or has both kidneys involved as is the case in the great majority of such patients.

SUMMARY

Hypertension and renal disease have a most important and often reciprocal relationship to each other. A renal lesion may be a cause of, or a result of, arterial hypertension or may even occur simultaneously with it as a consequence of a third abnormal process.

607 N. Grand Ave.

BIBLIOGRAPHY

Barker, N. W. and Walters, W.: Hypertension Associated with Unilateral Chronic Atrophic Pyelonephritis; Treatment by Nephrectomy, Proc. Staff Meet. Mayo Clinic **13**:118 (Feb. 23), 1938.

Butler, A. M.: Chronic Pyelonephritis and Arterial Hypertension, J. Clin. Investigation **16**:889 (November), 1937.

Castleman, B. and Smithwick, R.: The Relation of Vascular Disease to the Hypertensive State Based on a Study of Renal Biopsies from 100 Hypertensive Patients, J. A. M. A. **121**:1256 (April 17), 1943.

Goldring, W., Chasis, H., Ranges, H. A. and Smith, H. W.: Effective Renal Blood Flow in Subjects with Essential Hypertension, J. Clin. Investigation **20**:655 (November), 1941.

Goldring, W. and Chasis, H.: Hypertension and Hypertensive Disease. New York, The Commonwealth Fund, 1944.

Moritz, A. R. and Oldt, M. R.: Arteriolar Sclerosis in Hypertensive and Non-Hypertensive Individuals, Am. J. Path. **13**:679 (September), 1937.

Smith, H. W.: Physiology of the Renal Circulation. Harvey Lectures, Series XXXV, p. 166, 1939-1940.

Weiss, S. and Ellis, L. B.: Quantitative Aspects and Dynamics of the Circulatory Mechanism in Arterial Hypertension, Am. Heart J. :488 (April) 1930.

Weiss, E. and Chasis, H.: Failure of Nephrectomy to Influence Hypertension in Unilateral Kidney Disease. J. A. M. A. **123**:277 (Oct. 2) 1943.

Wellen, I.: Specific "Toxemia," Essential Hypertension, and Glomerulonephritis Associated with Pregnancy, Am. J. Oct. and Gynec. **39**:16 (January) 1940.

Wellen, I., Welsh, C. A., Taylor, H. C., Jr. and Rosenthal, A.: The Filtration Rate, Effective Renal Blood Flow, Tubular Excretory Mass and Phenol Red Clearance in Specific Toxemia of Pregnancy, J. Clin. Investigation **21**:63 (January) 1942.

Wiggers, C. J.: The Dynamics of Hypertension, Am. Heart J. **16**:515 (November) 1938.

Wiggers, C. J.: Physiology in Health and Disease. Ed. 3 Philadelphia, Lea and Febiger, 1939.

RENAL LITHIASIS: RECENT ADVANCES IN TREATMENT

D. K. ROSE, M.D.

ST. LOUIS

The etiology of kidney stone continues to be an enigma, probably in large part because there are so many varieties of stone; and their treatment cannot be discussed without knowledge regarding their etiology. Earlier considered causes of stone, such as water, diet, climate and humidity remain a factor, although a variable one. In certain parts of India, for instance, stones are very common, whereas in other parts with similar water, climate and humidity they occur infrequently.

It has long been recognized that renal lithiasis occurs less often in the Negro race than in the white race. This fact, in an analysis from South Africa, was thought to be due to a particular diet, yet it pertains in all other countries. The explanation for the occurrence of stone undoubtedly is in every instance an association of many different factors; this consideration should receive more attention than interest in their chemical composition. Uric acid, urates, oxalates, calcium, ammonium and magnesium phosphates may be formed

Washington University School of Medicine and Barnes Hospital.

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946.

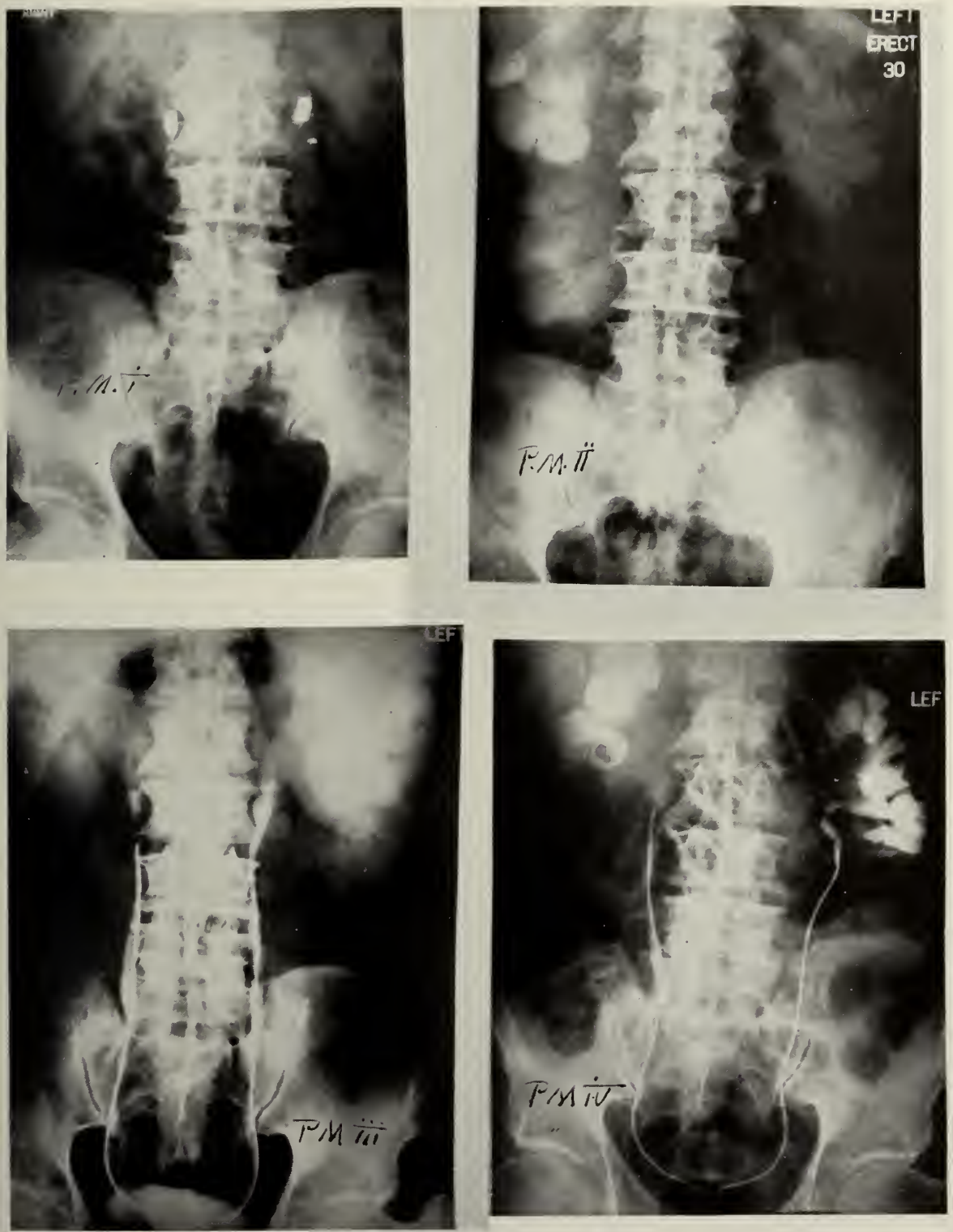


Fig. 1. Case P. M. (I) (July 16, 1940) Shows calculi in upper ureters of patient aged 63 years. Nonprotein nitrogen and blood pressure normal. Urine infected.

(II) Intravenous pyelogram taken 30 minutes after the intravenous injection of diodrast. Right kidney markedly hydronephrotic with moderate ability to excrete iodine. Left kidney no iodine excretion. The rule when both kidneys are damaged is to operate on the least damaged kidney first. In this instance, however, the left ureteral stone was removed first by ureterectomy on July 6, 1940. Right pyelolithotomy was performed on September 13, 1940. Nonprotein nitrogen remained normal throughout the surgical procedures. By operating on the left kidney first, one had the advantage of the very poor but better right kidney function, while the left kidney function was improved by unblocking it.

(III) (July 16, 1940.) Retrograde pyelograms—markedly hydronephrotic. Stones located in dilated upper ureter. Intravenous dye excretion right and left kidney nil.

(IV) Retrograde pyelograms taken February 1, 1943. Function of both kidneys markedly improved. The poorer kidney (left) now has nearly normal function and is less dilated than the right. Urine remains infected. Patient enjoys normal health, no dysuria.

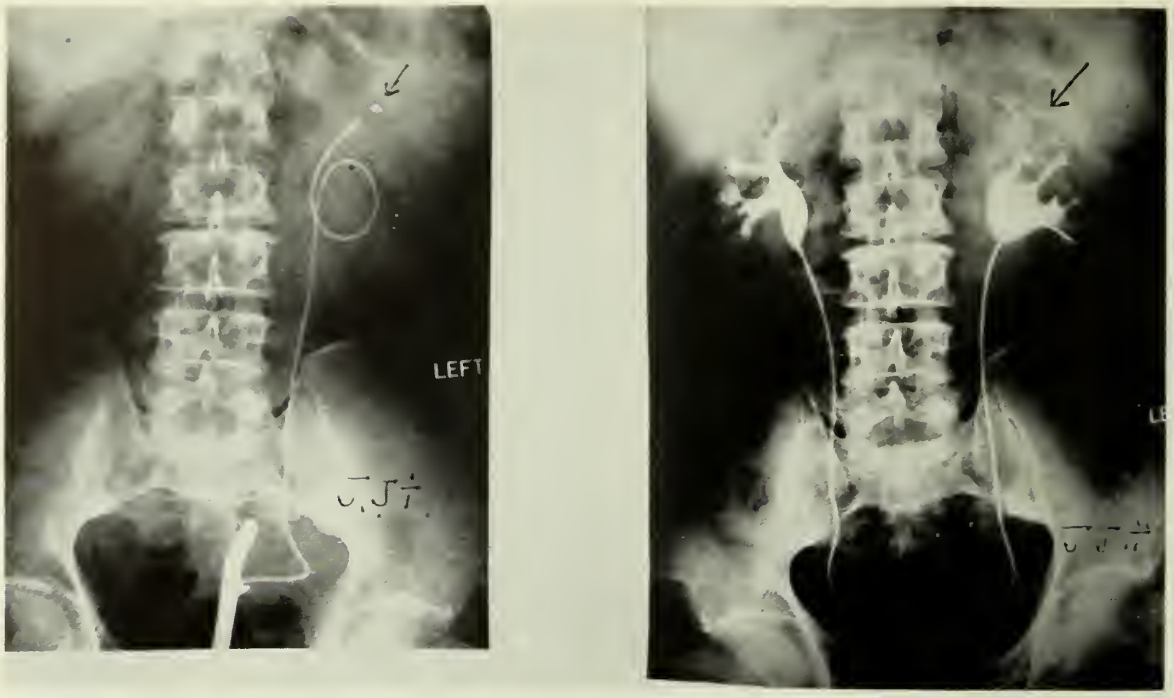


Fig. 2. Case J. J. Plain kidney-ureter-bladder film and pyelogram locating a stone in a minor calix. Such a stone is probably a Randall placque enlarged and trapped in a minor calix. If not infected, surgery is not indicated. Such a stone can remain silent for a lifetime. The rounded left ureteropelvic junction suggests R. Lee Hoffman's sign of an aberrant blood vessel. I feel this sign is of definite value, but its presence is occasionally absent due to a type of intrarenal pelvis or other uncontrollable factor.

in various layers in varying degrees in one kidney stone, according to a variation in concentration of these salts in the urine.

Randall[1] has the best basic etiologic explanation. He finds subepithelial placques, usually of calcium phosphate, in the kidney and particularly under the epithelium of the papilla. These then may erode through the epithelium, permitting urinary salts to be laid down around this calcium phosphate nidus in varying degrees. The nidus of a kidney stone also may be blood clot, fibrin, bacteria or colloids, or crystalloids.

Colloids by their concentration maintain the urinary salts in suspension. They are of two varieties. The first are those which keep urinary salts in solution and are reversible, that is, their concentration varies according to the temperature and pH of the urine. The second variety of colloid, fibrin in particular, have to do with cementing particles of urinary salts together into a stone. The fibrin colloids are not reversible but are constant in their concentration. There is nothing to do from a treatment standpoint about the colloidal concentration of the urine for the prevention or treatment of kidney stone.

Through diet one may maintain an acid ash or an alkaline ash in the urine to control its pH. The "acid ash" ketogenic diet undoubtedly has a valuable effect upon certain urinary infections and because it acidifies the urine it is also useful as an aid in preventing the precipitation of alkaline urinary salts. However, the ketogenic diet may be quite impractical except possibly in ambulatory children. A high vitamin diet has been stressed by Higgins.[2] This, together with varying the pH of the urine through dietary measures, is undoubtedly a factor in preventing the precipitation of salts. The high vitamin A intake helps maintain the normal epithelial lining of the kidney, pelvis and ureter; however there is evidence that each person's ability to utilize vitamin A is fixed. Nevertheless, vitamin A intake should be maintained at a high level in the diet of those subject to recurrent renal calculi.

Kidney stones associated with fractures and which form with abrupt bedrest are frequently, though not always, associated with infection. In analysis it seems to me that such stones with a rather rapid rise in the calcium content of the blood and urine *would be* much more frequent than are found in sedentary, very old people who do not have stones but who have had a slow though marked absorption of calcium from their bones which are seen daily in their roentgen-ray films. As a matter of fact, the occurrence of stone goes down sharply after 50 years of age. The elderly people have absorbed calcium not only at a much slower rate, but usually without associated infection.

Flocks[3] brings out very well the possibility for preventive treatment of calcium urolithiasis and advises a large fluid intake during the period of bedrest. He also advises control of diet to prevent an alkaline urine and also to furnish a high A and normal D vitamin content. He advises that the pH of the urine be observed daily. This can be done easily with nitrazine papers. He interestingly also

points out the dependency of the kidney pelves when patients are in bed. It occurs to me that after an accident of any type the friable kidney may easily, without clinical notification, furnish blood clots and injured renal cells as a nidus upon which a sudden increased calciuria may begin to build a calculus.

I believe also that there is a type of kidney pelvis to consider. Some pelves in their hydrodynamics allow a settling out of urinary salts in certain poorly draining minor calices more readily than in other parts, particularly when other factors favorable to stone formation are present.

Flocks also advises that one quickly control infection during the period of bedrest should there be such an unprovoked occurrence. By unprovoked I refer to deferring catheterization and cystoscopic procedure until either becomes absolutely necessary. He advised frequent roentgen-ray films of the kidneys to show the least calcium particle should it occur.

Hyperparathyroidism, studied particularly by Albright[4] and his coworkers, is definitely an etiologic factor in the formation of kidney stone. While one finds renal calculi in many cases of hyperparathyroidism showing definite bone changes and a high blood calcium and a low blood phosphorous, stones do occur in the kidney with hyperparathyroidism in which they are the only evidence of the disease. It is even possible for a kidney stone to be present as a result of the hyperparathyroidism, and in each case associated blood calcium and phosphorous changes may not become present for several years after the stone is removed. It is well, therefore, in a person with a calcium phosphate stone which is obviously not due to other causes to check the blood and calcium and phosphorous at certain intervals even after removal of the kidney stone, and particularly in recurrent stones.

Stasis of urine, together with vitamin A deficiency, and with infection, particularly with a urea-splitting organism, are the three factors that one can deal with in treatment and prevention of kidney stone to a certain degree. Stasis of urine may occur in any one part of a kidney pelvis, in association with an atypical pelvis, hammer head or bifid type for example, one in which one part of the renal pelvis has a freer flow[5] than another part. Could familial stone be on this basis, i.e., shape of kidney and pelvis in certain degree conform to skeletal formation?

One sees instances also of a large stone in a normally placed but dilated calix. It is suggested in this type that the Randall plaque first occurred under the papillary mucosa, the cause of which is not known but, when this calcium plaque ulcerated through, it was sufficiently large so that it did not pass through the infundibulum of that minor calix and down into the pelvis proper. Further deposition on the plaque in time increased the size of the stone until it filled and dilated the minor calix. In such an instance this stone should not be removed alone but a calixectomy also should be performed. The calix may be excised with a "V" incision, suturing the wedge shaped defect together with catgut. Also one may for hemostasis

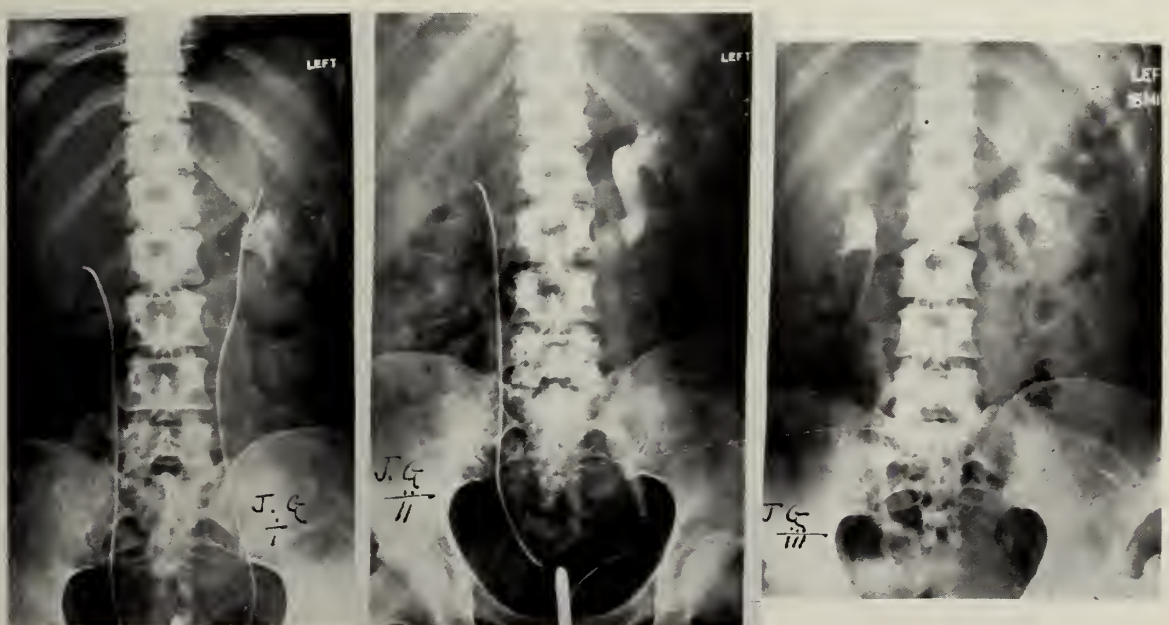


Fig. 3. Case J. G. (I) Staghorn calculus left.
(II) Retrograde left pyelogram shows a stricture of low left ureter with dilatation above. Stone fills pelvis and major calices.
(III) Fifteen minute intravenous pyelogram, right kidney normal. It was determined previously that there was no right kidney infection. Ability of left kidney to excrete iodine impaired. At operation a left nephro-ureterectomy was carried out. The stricture was definite, spindle type, and the ureteral wall thick. The kidney showed diffuse tuberculous infection. Evidently the stone in this instance invited the tuberculous infection. A secondary E. coli infection of the left kidney and bladder was present. Wassermann test was positive; nonprotein nitrogen normal.



Fig. 4. Case E. M. (I) Bilateral kidney stones. The small stones, particularly on the right, suggest a cavity which should be removed by calixectomy to lessen danger of recurrence. The small stones on the left at operation were found to be in such a cavity and calixectomy was performed. The right kidney is yet to be operated upon. Right kidney function was less than the left as determined by an intravenous phenolsulphonphthalein dye test, therefore, the better (left) kidney was operated upon first.

(II) Right kidney shows dilated calices due to infection and back pressure. One such calix and the pelvis proper contains a stone. The dilated right ureter is due to injection pressure plus the result of long infection. The kink at the left ureteropelvic junction is due to the ureteral catheter pushing the ureter upward against a kidney fixed by infection. "Erect" films are always made to show renal mobility.

(III) Cholecystogram shows the small stones on the right side to be in a pocket, i.e., lower dilated calix.

implant a small mass of fat into the area from which renal tissue of the kidney has been removed.

A dilated kidney pelvis of an extrarenal type should in part be resected, particularly if submucosal fibrosis has occurred to the degree that its elasticity is impaired. Farther down, an obstructing aberrant blood vessel or fibrous tissue band should be searched for and resected. When it is not obvious it is searched for by mobilizing the kidney and after lowering the kidney rest, rotating the kidney to determine whether or not the ureter or pelvis could contact a blood vessel that otherwise may seem quite remote from the ureter. Very little mobility of the kidney may allow an occasional contact with blood vessels, and such contact may be sufficient occasionally to interfere with ureteral peristalsis so that stasis of urine, associated with petechial hemorrhage, cell damage, infection and calcification may occur within the kidney pelvis, or may assist indirectly in the eroding out of a Randall placque.

Aberrant blood vessels which may obstruct urinary flow are found leading from the aorta and vena cava to a point below the hilus of the kidney. However, the small artery and vein of the ureter may obstruct the ureter by leaving it, or jumping over to the kidney, just short of its reaching the hilum. Such a point of abnormal fixation would not quite kink the ureter but it would furnish a sufficiently abnormal pull so that the smooth, downward peristalsis of the ureter would be broken and stasis and infection with resultant fibrous bands, or adhesions later would fix the ureter to the kidney.

In consideration of the physiology of a gradually blocked ureter or kidney pelvis one first has overwork, smooth muscle hypertrophy, then back pressure anesthesia, then dilation of the pelvis or ureter, just as these events occur in the urinary bladder back of a prostatic obstruction. Symptomatically, with the overwork hypertrophy of the smooth muscle kidney colic occurs, and as back pressure anesthesia comes in and the kidney pelvis dilates, colic gives way at times to obscure reflex gastrointestinal symptoms with or without dull flank pain.

Heminephrectomy can be performed by dividing and folding backward the fibrous kidney capsule, excising one half or less of the kidney, then replacing and suturing the fibrous capsule over a large piece of fat placed directly upon the cut surface of the kidney. In calixectomy and heminephrectomy the ribbon catgut of O. S. Lowsley[6] can be used to advantage in preventing suture damage to kidney circulation and for better control of postoperative kidney hemorrhage.

Nephropexy when there is an abnormal degree of renal mobility should always supplement surgery for kidney stone. Such mobility may cause stasis by ureteral block or by dependency of the kidney pelvis, and so may invite a deposition of urinary salts at certain periods. These certain periods again may occur when a change of the urine leads to a diminishing concentration of the colloids, with simultaneously a transient infection, also simul-

practically everywhere





. . . including the temperate zones, an unexpectedly high percentage of carriers of Endamoeba histolytica is to be found.

DIODOQUIN

(5,7-diiodo-8-hydroxyquinoline)

—potent amebicide—can be used in suspected as well as proved cases of amebiasis.
Accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

Diodoquin is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

SEARLE

RESEARCH
IN THE SERVICE
OF MEDICINE



Troublesome INFANTILE ECZEMA

may be a *symptom* of

1. Intolerance to milk proteins
2. Low unsaturated fatty acid content of blood lipids.



Early studies[1,2,3] using foods rich in unsaturated fatty acids showed satisfactory results in eczematous conditions. • In more recent investigations MULL-SOY has been used as a hypoallergenic milk substitute. This liquid emulsified soy food contains only the non-milk proteins, and is a rich source of unsaturated fatty acids, particularly linoleic, which appears to be essential for maintaining skin integrity. In the report[4] of this work, it was stated: "When external treatment of the skin is of the best and a good elimination diet is employed a soybean food can produce a beneficial effect in eczema of infants and children both in the milk-sensitive patients and in the multiple-food-sensitive cases."

MULL-SOY is prepared from water, soy flour, soy oil, dextrose, sucrose, calcium phosphate, calcium carbonate, salt, and soy lecithin. Homogenized and sterilized. Available in 15½ fl. oz. cans at all drug stores.

REFERENCES: 1. Cornbleet, T. and Pace, E. R.: Arch. Derm. & Syph., 31:224, 1935. 2. Hansen, A. E.: Am. J. Dis. Child., 63:933, 1937. 3. Taub, S. J. and Zakon, S. J.: J. A. M. A., 105:1675, 1935. 4. Stoesser, A. V.: Ann. Allergy, 2:404, 1944.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 MADISON AVENUE, NEW YORK 17, N. Y.
IN CANADA WRITE THE BORDEN COMPANY, LIMITED, SPADINA CRESCENT, TORONTO

MULL-SOY

taneously an unusual concentration of certain urinary salts due to large intake of calcium salts in the diet associated with a lowered urinary output; therefore all factors would work together toward the formation of a stone. Or there may be trauma at this time. One must remember that the kidney is very friable; all athletes show blood in the urine after strenuous exertion. In association with these other factors even small blood clots could occur which would form a nidus, or at the same time bacteria and colloids could form an association for a nidus for future calcification. Therefore in treatment and prevention of kidney stones it would seem that all the theoretical factors must be kept in mind. Above all, however, stasis of urine is the prime consideration, not to prevent the precipitation of urinary salts, but to prevent the occurrence of a possible etiologic infection.

Everybody excretes organisms daily; it has even been definitely shown that a large percentage of people with pulmonary tuberculosis excrete the tubercle bacillus, though they may or may not have a transient tuberculous kidney, they do not later develop renal tuberculosis. The best example of the excretion of bacteria from the intestines is, of course, in typhoid fever. The colon bacillus is excreted with equal facility, at varying times during probably each day, and should they meet any one of the many contributing factors could institute an infection which would in turn destroy the epithelium, which would in turn with these other factors I have mentioned, cause the laying down of small particles which later are to become stone.

After surgery for kidney stone one has all the factors favoring recurrence of stone; therefore the patient must be cleared of renal residual, stasis of urine, and infection if it is possible.

Infection of the kidney must not be considered as the first but as the second etiologic factor. What unusual factors may predispose to a pyelonephritis by the virulence of the infection even without urinary stasis factors correctable by surgery? The work of Rosenau who injected devitalized teeth in animals with a streptococcus obtained from the urine of a patient with kidney stones and reproduced kidney stones in the animal shows that focal infection may be a factor in renal infection, which again may lead to kidney stones. One must, therefore, look for and correct focal infections!

Ureteral manipulation for removal of stones is of interest to physicians in St. Louis as Bransford Lewis[7] was one of the very first to dilate ureters by cystoscopic means. Dourmashkin,[8] on the other hand, has the latest ideas and dilators for removal of ureteral stones cystoscopically. He has an inflatable rubber bulb ureteral catheter which is passed up by means of an operating cystoscope and inflated directly under the ureteral stone, then withdrawn. He has found this successful in removing a large number of stones. Many of the stones he has removed, however, were not removed with the inflatable ureteral bulb catheter but with graduated metal dilators which are used in the same manner. It does seem advisable to dilate below the stone, which may account for some of the earlier successes when large ureteral catheters were passed up to the stone, and olive oil injected with a certain amount of pressure. The ureteral stone extractor of W. A. Councill[9] and the expandable wire cage of F. P. Johnson [10] have and will continue to prevent open surgery for the removal of many ureteral stones. They are cystoscopic instruments most generally in use today. Incarceration of stone, ureteral stricture, and too large ureteral stones still demand ureterostomy. Lumbar ureterolithotomy described by Foley [11] is receiving increasingly favorable comment over ureteral instrumentation in uncomplicated lumbar stones. It is a non-muscle cutting but rather a muscle spreading operation carried out through the superior lumbar triangle.

It is most fortunate that morphine increases the force, rate and amplitude of ureteral peristalsis as its use, together with exercise, not bedrest, large fluid intake and possibly catharsis for sympathetic or overflow ureteral stimulation occasionally makes possible the self-expulsion of ureteral calculi. Van Duzen[12] and his associates find that octin also stimulates ureteral contraction, while trascentin and atropine are most reliable for decreasing ureteral



Fig. 5. Case B. C., aged 12, an adrenal dwarf, 42½ inches tall. Plain kidney-ureter-bladder film shows at least twice the normal number of minor calices, each filled with calcium, stone and sand. An alkaline urine infection. Pus 4 plus. No growth on culture. No tuberculosis. Such a situation is hopeless. There is both a metabolic and a drainage error of both kidneys. Nonprotein nitrogen was 30. Blood Wassermann was negative. Blood serum calcium was 9.5; blood serum phosphorus 3.2.

spasm and peristalsis. The use of depropanex for relief of renal and ureteral pain is vouched for by Carroll and Zingale[13] and by Kirwin, Lowsley and Menning.[14] The spasmolytic drugs are advisable before cystoscopic ureteral stone manipulation. These authors feel that transcentin and morphine should not be administered together.

H. I. Suby and Fuller Albright[15] have had a definite degree of success in dissolving stones with Solution G, the formula of which is:

Citric Acid, monohydrated	32.35 grams
Magnesium Oxide, anhydrous	3.84 grams
Sodium Carbonate, anhydrous	4.37 grams
Water Q.S.A.D.	1,000 cc.

Solution G is definitely irritable; my work with it so far has brought out this point. The explanation of Suby and Albright for this is that its pH is probably lower than that of the urine, and they, therefore suggest Solution M, which is:

Citric Acid	32.35 grams
Sodium Carbonate, anhydrous	8.84 grams
Magnesium Oxide	3.84 grams
Water Q.S.A.D.	1000 cc.

My opinion is that the dissolution of stone by chemical means will never be successful without a drug that may be taken by mouth, and at the present time there is no such drug. My reasons for doubting the eventual ability to dissolve stones by means of chemicals injected either through a ureteral catheter or through a nephrostomy or pyelostomy wound are that there are marked exceptions in the solubility of stone, inherent in the stone itself, such as oxalates, or due to a protective substance around some stones. Also dissolution of the stone by lavage does not take into consideration the etiologic factors responsible for the first stone which would remain to act for a stone recurrence. Also the physical penalty for repeated ureteral catherization or for prolonged nephrostomy or pyelostomy might be greater than surgery for removal of the stone and correction of a stasis producing factor at the first and only operation. However, there are instances in which the reverse would hold such as a partially obstructing stone in a damaged remaining or solitary kidney.

DISCUSSION AND SUMMARY

Treatment and prevention of primary or recurrent kidney stones must be based upon their etiologies.

Renal calculi are made up, in varying percentages, of all of the normal salts of the urine, which vary in concentration in different individuals or in the same individual at different life periods. The argument that such calculi must be of many different etiologies as they are of many different varieties does not hold 100 per cent. Instead, one may deduce that the etiologies present during different life periods of the same individual are constant, while periodic concentrations of different urinary salts, dietary or metabolic in origin, determine the kind of stone that forms.

Small urate, (red, pink or buff), soft; calcium, ammonio-magnesium phosphate, stones (white), hard oxalate stones (black), and rarely cystin and xanthin stones do seem to assume individual shapes. The concentration of the urinary colloids which maintain these salts in solution and of the colloids whose function it is to bind together the precipitating urinary salts, may be favorable to stone formation at a time when infection, water intake and output, mineral concentration of the urine in a kidney with poor pelvic and ureteral hydrodynamics in whole or in part, and the persistence of all of these factors when a nidus of blood (injury) fibrin, a Randall placque, colloids or bacteria are present, upon which to build a stone.

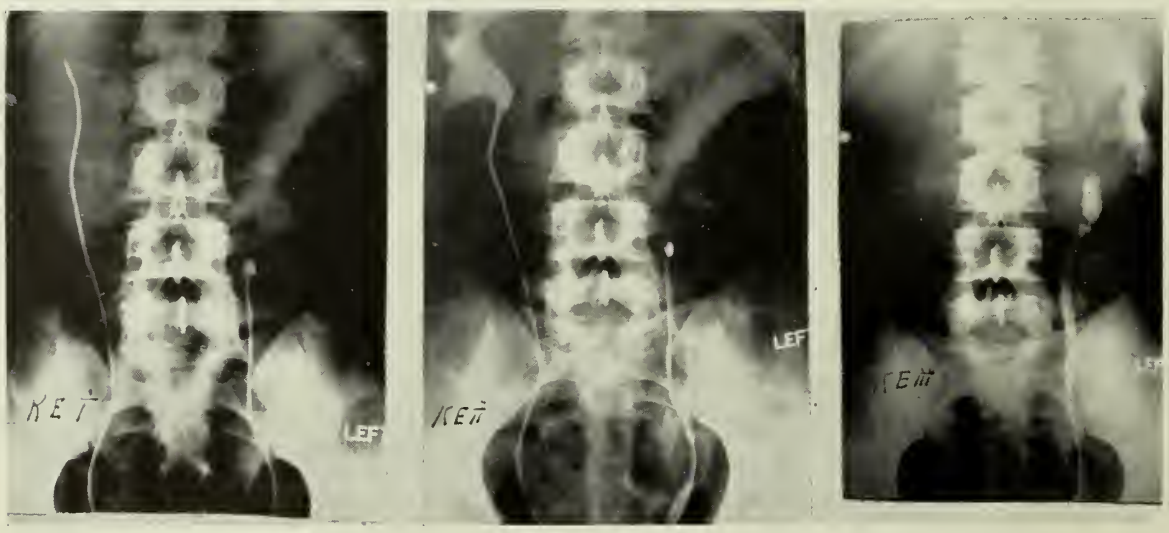


Fig. 6. Case K. E. (I) Onset of pain, left, one month prior. Stone shadows right and left.
(II) Right kidney stone in dilated minor calix. Not infected. Stone immobile. Surgery on right not indicated. Left stone at fourth lumbar vertebra.
(III) Left retrograde filling shows ureter dilated above stone. This kidney shows no function, its block by stone was sudden and complete, as shown by very moderate dilatation of the kidney pelvis. The Foley operation would be suited admirably to this particular kind of stone.

ANALYSES OF NUTRITIVE VALUES:



Campbell's STRAINED BABY SOUP

	CHICKEN	LIVER	LAMB	BEEF	VEGETABLE
Solids %	11.8	13.3	13.9	13.7	13.4
Protein %	2.63	3.42	3.09	3.91	1.95
Fat %	1.5	0.9	2.1	0.9	0.5
Carbohydrate % by difference	6.4	7.5	7.2	7.6	9.3
Calories per ounce	14	15	17	15	14
Crude Fibre %	0.15	0.29	0.30	0.22	0.43
Calcium %	0.026	0.013	0.046	0.046	0.024
Phosphorus %	0.042	0.065	0.068	0.068	0.051
Iron Mg. per 100 g.	.22	.72	.35	.40	.73
Copper Mg. per 100 g.	.24	.35	.12	.17	.24
Manganese Mg. per 100 g.	.075	.173	.054	.053	.018
Vitamin A—I. U. Per 100 g.	1766	7000	1130	1693	2550
Thiamine Mg. per 100 g.	.018	.080	.036	.037	.069
Riboflavin Mg. per 100 g.	.040	.62	.068	.072	.064
Ascorbic Acid Mg. per 100 g.	1.1	7.3	2.7	3.9	7.5
Niacin Mg. per 100 g.	.77	1.54	1.22	1.29	1.05

Copies of this Chart in Convenient File Card Form
Will be Sent upon Request

5 KINDS:

CHICKEN
BEEF
LAMB
LIVER
VEGETABLE

All in Glass Jars



Campbell's Strained Baby Soups represent fine quality . . . in ingredients . . . in care and method of cooking . . . in retention of minerals and conservation of vitamins . . . *and in good flavor.* Every resource of Campbell's Kitchens is devoted to that aim.

CAMPBELL SOUP COMPANY, Camden, N. J.



LOOK FOR THE RED-AND-WHITE LABEL

Keyser[16] produced kidney stones by increasing the crystalloids of the urine to such a degree that the protective colloids of the urine were no longer able to hold them in solution and they precipitated out into calculi.

The separate factors in their application for treatment follow:

(1) Colloid concentration of urine must go on its way, unmanaged by medicine; however, one can prevent undue mineralization of the urine which might cause a colloid-crystalloid in balance.

(2) Infection and pH of urine can be controlled, providing the cause of the infection, focal or within the urinary tract itself, is recognized and corrected.

(3) Diet should be acid or alkaline ash diet with specific drug therapy, Mandelic acid for a B. coli infection of the urine, penicillin, a "sulfa" drug or streptomycin for other or mixed infections of the urine and deeper tissue infection. Hexamethylenamine and acid sodium phosphate remains only a bacteriostatic agent. In a recent article, Anderson and McDonald[17] conclude that renal calculi may be dietary and not a disease of the kidney *per se*. Their reason for this statement is that they are able to find microscopic calculi (five or six times the size of a kidney tubule) in all kidneys studied, and further that it required only from four to ten sections of any kidney to locate such a calculus.

From this study I deduce that if all do have microscopic calculi, it requires etiologies, brought out here, in whole or in part, for the formation of clinically important renal calculi. Obviously one cannot observe a lifetime dietary management for prevention of the first or recurrent stone. One can follow only a well balanced and therefore a high vitamin diet, moderate mineral and sufficient fluid intake.

(4) Stasis of urine, with other etiologic factors, produces stone; it is closely associated with infection. Calixectomy or heminephrectomy may correct stasis in a part of a kidney. Nephropexy, plastic surgery of the kidney pelvis, ureterolysis, removing aberrant blood vessels that obstruct urinary flow, when indicated, should be performed at the time of removal of stone by open surgery. Intravenous pyelograms are most satisfactory for study of flow of urine within the kidney pelvis and ureter. However, they often require supplemental retrograde pyelograms for a better contrast, sharper outline pyelogram.

(5) Dissolution of stone by topical application occasionally may be indicated, using Suby's solution or Solution M.

(6) Overmineralization of the urine, due to hyperparathyroidism should be studied before and after surgery for stone. Overmineralization of urine by too large intake, too little, prolonged, water intake, particularly during a period of dependency (bedrest) of the kidney, or any stasis of urine should be counteracted by altering the position of the patient.

(7) Ureteral manipulation for removal of large

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Benjamin A. Ruskin, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.
E. Madison Paine, M.D.
H. Gladys Spear, M.D.
Arthur J. Patek, M.D.

G. H. Schroeder, *Business Manager*

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*







Fig. 7. Case E. P. (I) Pelvic stones, left one branching or coral type. The striking point of this patient was that he had had no pain and no dysuria. Pus was found in his urine at a life insurance examination. Both stones were removed by pyelolithotomy, the left first and right at a second operation. Stone reformed in the left, requiring nephrectomy. Patient well with remaining right kidney.

(II) Twenty minutes film after 300 cc. Neo Iopax intravenously shows bilateral hydronephrosis. No ureteropelvic obstruction, with equal and fair iodine excretion. Nonprotein nitrogen normal.

stones in the lower ureter to smaller stones to midureter is feasible.

(8) The Foley operation is indicated in uncomplicated stones in the lumbar portion of the ureter.

3720 Washington.

BIBLIOGRAPHY

1. Randall, Alex.: A Hypothesis for the Origin of Renal Calculi, New England J. Med. **242**:214-234 (February) 1931; Papillary Pathology as a Precursor of Primary Renal Calculus, J. Urol. **44**:580-589 (November) 1940.

2. Higgins, Chas. C.: Formation of Recurrent Renal Calculi, J.A.M.A. **113**:1460-1465 (Oct. 14) 1939.

3. Flocks, R. H.: Preventive Treatment of Calcium Urolithiasis and the Important Role of Early and Frequent Roentgen Examinations, Urol. **53**:427-439 (March) 1945.

4. Albright, Fuller: The Parathyroids, Physiology and Therapeutics, J.A.M.A. **117**:527-533, 1941.

5. Rose, D. K.; Hamm, W. G.; Moore, S., and Wilson, H. M.: Kidney Pelves—Normal Variation in Their Shape and Flow with Possible Pathological Significance, Surg. Gynec. & Obst. **57**:1-14 (July) 1933.

6. Lowsley, O. S., and Kirwin, T. J.: Clinical Urology, Ed. 1, 1940, Ed. 11, 1944, The William & Wilkins Co., Baltimore.

7. Lewis, Bransford: Ureteral Stones, the Technique of their Removal by Cystoscopic Methods, Surg. Gynec. & Obst. (April) 1915.

8. Dourmashkin, Ralph L.: Cystoscopic Treatment of Stones in the Ureter with Special References to Large Calculi; Based on the Study of 1550 Cases, J. Urol. **54**:245-250 (September) 1945.

9. Councill, W. A.: New Ureteral Stone Extractor and Dilator, J.A.M.A. **86**:1907, 1926.

10. Johnson, F. P.: New Method of Removal of Ureteral Calculi, J. Urol. **37**:84, 1937.

11. Foley, F. B.: Management of Ureteral Stones. Operation Versus Expectancy and Manipulation, J.A.M.A. **104**:1314 (April) 1935.

12. Slaughter, D.; Johnson, T. V.; Tobolonsky, N., and Van Duzen, Rex.: Effect of Spasmolytic Drugs on the Isolated Ureter, Texas Rep. Biol. & Med. **3**:37-85, 1945.

13. Carroll, Grayson, and Zingale, F. D.: Clinical and Experimental Study of Effect of Pancreatic Tissue Extract on Ureters, South. M. J. **31**:233-236 (March) 1938.

14. Kirwin, T. J.; Lowsley, O. S., and Menning, J. H.: The Use of "Depropanex" Depropeinated Pancreatic Tissue Extract, for the Relief of Renal and Ureteral Pain: Effect of the Passage of Renal and Ureteral Stones, J. Urol. **51**:132-142 (February) 1944.

15. Suby, H. I., and Albright, F.: Dissolution of Phosphatic Urinary Calculi by the Retrogarde Introduction of a Citrate Solution Containing Magnesium, New England J. Med., **228**: 81-91 (January) 1943.

16. Keyser, Linwood D.: Urinary Lithiasis, A Review of a Quarter Century of Research, J. Urol. **50**:169-190 (August) 1943.

17. Anderson, Leo, and McDonald, John R.: The Origin, Frequency, and Significance of Microscopic Calculi in the Kidney, Surg. Gynec. & Obst. **82**:215-282 (March) 1946.

RENAL INSUFFICIENCY IN DISEASES OTHER THAN THOSE OF THE KIDNEYS AND URINARY TRACT

EDWARD H. REINHARD, M.D.
ST. LOUIS

Failure of the kidneys to perform their normal excretory and reabsorptive functions with resultant retention of nitrogenous products of catabolism or with disturbances of electrolyte or water balance may result not only from intrinsic disease of the kidneys and urinary tract, but also from disease processes elsewhere in the body. In the latter situation, nitrogen retention is referred to as prerenal azotemia. Nitrogen retention due to obstruction of the urinary passages is not included in the meaning of this term or in the subject matter of this paper. The clinical symptoms which accompany prerenal azotemia vary considerably just as they do in primary renal disease; at times rather marked azotemia may occur with practically no clinical symptoms, whereas in other cases muscular weakness,

From the Department of Medicine of the Washington University School of Medicine.

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

accepted

for New and Nonofficial Remedies by the Council on Pharmacy and Chemistry of the American Medical Association.



PERTUSSIS ENDOTOXOID-VACCINE

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

Bacterial Vaccine and Bacterial Antigen Combined.
Made from H. pertussis phase I organisms.

Ayerst Pertussis Endotoxoid-Vaccine is made by suspending H. pertussis phase I organisms in a formalized endotoxin solution prepared from H. pertussis phase I. The resulting Pertussis Endotoxoid-Vaccine is both antibacterial and antiendotoxic, thus providing immunity to the H. pertussis organisms and to the endotoxin produced by these organisms.

Ayerst Pertussis Endotoxoid-Vaccine is available in vials of 6 cc. and 24 cc.

Ayerst

AYERST, McKENNA & HARRISON Limited, 22 East 40th Street, New York 16, N. Y.

mental confusion or stupor, diarrhea and vomiting may occur.

The term prerenal azotemia should not be construed to mean that the kidneys are entirely normal in these conditions. The term indicates only that the primary disease is in some other organ; the primary disorder, in turn, causes functional or even structural changes in the kidneys with resultant incompetency.

The pathogenesis of this type of renal failure will be discussed first. Then, the various clinical conditions and diseases which may give rise to renal failure will be considered.

There has been considerable disagreement among various investigators as to the pathogenesis of the renal insufficiency in these cases. Fishberg[1] claims that the primary pathogenic factor in most, if not all, instances of prerenal azotemia is decrease in blood flow through the kidneys. This is unquestionably an important factor in many cases, but in other instances it is possible that changes in the electrolyte or fluid content of the plasma or the accumulation of nephrotoxins may play some part. This problem has been reviewed recently by Bradley.[2]

Jeghers[3] has shown that marked reduction of plasma sodium ion concentration results in renal insufficiency. The problem of salt depletion is involved intimately with the regulation of the blood volume and the hydrogen ion concentration and osmotic pressure of the blood and tissue fluids. Lowering of the sodium level by inadequate salt intake, increased water intake or excessive perspiration results in nitrogen retention, but the sodium level must be reduced to extremely low levels before renal efficiency is impaired significantly. As a result of these considerations McCance[4] concludes that sodium loss *per se* is not an important direct cause of renal failure.

A lowering of the plasma chloride level is seen frequently in association with uremia, and hypochloremia has been thought to produce renal insufficiency. However, Clausen[5] showed that lowering the plasma chloride concentration does not produce renal damage if the plasma volume and osmotic pressure are kept within normal limits. Hiatt[6] produced extreme hypochloremia in dogs for several months by nitrate administration; there was no evidence of renal failure in these animals.

Loss of water and base from the body results in the passage of fluid from the cells to the extracellular spaces, and selective excretion of electrolytes by the kidneys tends to keep the plasma composition normal. Hopper[7] has shown that with water loss the plasma volume remains normal at the expense of the extravascular fluid unless serious salt depletion occurs. The resultant cellular dehydration may cause death according to Winkler,[8] even though renal function is normal and plasma volume is not affected. Bradley[2] emphasized that when dehydration leads to a diminution both of the extracellular fluid and of the plasma volume, renal insufficiency occurs even before any evidence of shock appears.

Decreased renal blood flow due to vasoconstriction has been shown to occur in anemia, traumatic shock, Addison's disease and orthostatic hypotension.[9, 10, 11, 12] In all of these disorders the effective circulating plasma volume is decreased.[2]

The finding of focal areas of necrosis in the kidneys following certain infections and severe accidents has given rise to the idea that tissue destruction may result in the release of nephrotoxins. The presence of nephrotoxins in these circumstances has never been proven, and it seems likely that decrease blood flow due to peripheral circulatory collapse is the primary factor in production of renal failure in these cases.

VOMITING

Vomiting results in the loss of large quantities of fluid as well as of chloride. The chloride loss produces a relative excess of base, and alkalosis usually develops. This may lead to azotemia or even the complete clinical picture of uremia. Brown et al[13] reported six cases of uremia due to protracted vomiting in which the kidneys at autopsy showed acute nephritis or nephrosis. McLetchie[14] reported a case of renal insufficiency following excessive vomiting in which the pathologic lesion in the kidneys was similar to that seen in the crush syndrome. McCance[15] has presented observations suggesting that the principal factor in the pathogenesis of the renal failure in these cases is decreased renal blood flow and diminished glomerular filtration.

DIARRHEA

Severe or protracted diarrhea leads to excessive dehydration and loss of alkaline intestinal secretions with resultant acidosis. Azotemia due to this cause is much more common in children than in adults. The experimental studies of Winkler[8] would seem to indicate that acidosis alone will not cause renal failure. Dehydration seems to be the important factor in the production of the azotemia, and water and salt replacement are essential factors in treatment.

ACUTE INFECTIONS

Chasis[16] has shown that following foreign protein injection efferent arteriolar dilatation occurs with resultant reduced peripheral vascular resistance; ordinarily this is accompanied by increased cardiac output to maintain the blood pressure. At times, however, this compensatory mechanism fails and circulatory collapse results. The same changes have been observed when temperature elevation was prevented by antipyretic drugs.

The pathogenesis of shock and renal insufficiency due to acute febrile infections is not so well understood. The mechanism mentioned may operate here also, and salt depletion and dehydration are probably additional contributory factors. Bradley[2] has summarized the evidence that increased tissue protein catabolism and the action of toxins produced locally in areas of inflammation directly on the kidneys or on the adrenal cortex may play some part in the production of shock and renal failure.

CONGESTIVE HEART FAILURE

The factors responsible for impaired renal function in heart failure are obscure and there are many conflicting opinions.

According to the "backward failure" hypothesis which has been presented so clearly by Harrison,[17] as the heart begins to decompensate cardiac output diminishes and the venous pressure increases. This results in an increased intracapillary pressure which tends to drive fluid out into the interstitial spaces. Thus, in acute heart failure hemoconcentration may occur with the excretion of a concentrated urine and the retention of nitrogenous substances, electrolytes and water until the plasma volume has been restored to normal.

However, in the chronic decompensation blood volume is known to be increased (Harrison,[17] Fishberg[18]) and, in this situation, edema and salt retention can hardly be due to hemoconcentration. Warren and Stead[19] have suggested that renal retention of salt and water may be the primary factor, and that this in turn causes an increase in the plasma volume which produces an increased venous pressure.

Regardless of the validity of these concepts, Seymour et al[20] have presented evidence that renal blood flow is reduced in heart failure. This may be due to active renal vasoconstriction (Seymour et al[20]) or to increased venous pressure (Bradley[2]). Fishberg[18] believes that an important factor in reducing the renal blood flow is renal congestion with a resultant increase in intrarenal pressure. Seymour's data[20] seem to indicate that the glomerular filtration rate is reduced in cardiac failure, but not as much as is the renal blood flow. Reduced renal blood flow would seem to be the factor of prime importance.

DIABETIC COMA

The polyuria which is so characteristic of uncontrolled diabetes results in the loss of water and base, and this together with the accumulation of ketone bodies leads finally to dehydration and coma. This would be expected to result in a reduced glomerular filtration rate with consequent retention of nitrogenous products. Lyall and Anderson[21] and McCance and Lawrence[22] have emphasized that azotemia actually is common in diabetic coma.

However, signs of renal insufficiency occur not infrequently in diabetic patients even when they are not in coma; McCance and Lawrence[22] studied this problem in a series of patients and came to the conclusion that dehydration, hypotension or urea overproduction could not account for the azotemia. It subsequently has been shown by Kimmelstiel and Wilson[23] and others that the kidneys of diabetic individuals frequently show collections of dense hyaline material in the glomeruli between capillary loops, a lesion now known as intercapillary glomerulosclerosis. When this lesion is sufficiently advanced glomerular filtration is impaired, and edema and uremia may ensue.

ADDISON'S DISEASE

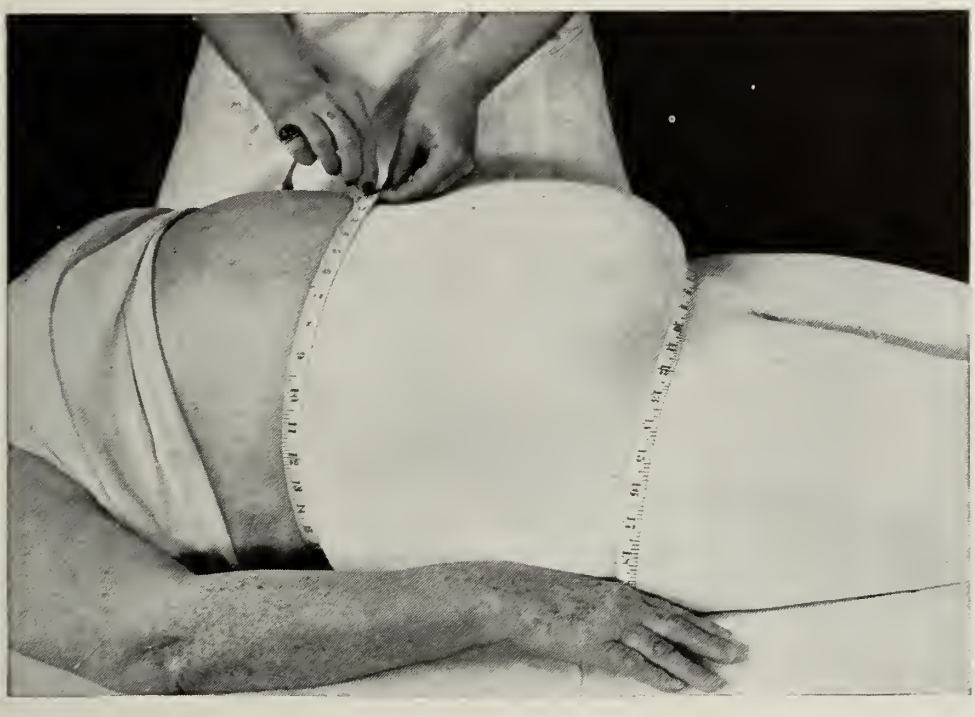
Loeb[24] has shown that in acute adrenocortical insufficiency the plasma volume is reduced greatly; this presumably accounts for the hypotension, tachycardia, cyanosis and other evidences of peripheral circulatory collapse which are so commonly seen in the crisis of Addison's disease. Renal insufficiency may be severe with marked azotemia. Harrison and Darrow[25] have found that the absence of adrenocortical hormone causes excessive loss of sodium and water in the urine apparently due to a failure of the renal tubules to reabsorb sodium. It is well known that salt deprivation will induce crisis in these patients. Adrenocortical hormone insufficiency also reduces the glomerular filtration rate; this causes a decreased excretion of potassium with resultant elevation of the potassium content of the tissue fluids.[25] The work of Corey et al[26] on rats suggests that adrenal disease is accompanied by pituitary and hypothalamic disturbances which, in turn, result in loss of salt and water. Harrison and Darrow[25] injected sufficient saline solution into adrenalectomized dogs to restore the sodium content of the tissue fluids; this restored the glomerular filtration rate and urea excretion to normal, but did not affect the decreased potassium excretion or reduced tubular reabsorption of sodium.

The mechanisms of renal insufficiency discussed in the previous paragraph have to do with acute adrenocortical insufficiency, or Addisonian crisis. Significant impairment of renal function in the chronic cases without crisis is less common. Careful studies by Barker[27] and Guttman[28] failed to reveal any specific pathologic changes in the kidneys of individuals with Addison's disease. However, Talbott[11] showed that the renal blood flow and the glomerular filtration rate were reduced in patients with Addison's disease who were receiving adrenocortical hormone therapy even though they showed no clinical signs of renal failure. These findings have not been explained adequately.

ALKALOSIS

It has been known for many years that alkalosis due to excessive ingestion of alkali by patients with peptic ulcer may lead to azotemia. Nicol[29] studied a series of such patients and found that alkalosis was accompanied by azotemia only in those individuals who became dehydrated. He postulated that dehydration is the essential factor in the pathogenesis of the renal insufficiency. However, Hardt and Rivers,[30] Cooke,[31] Oakley[32] and Nicol [29] himself have found definite pathologic changes in the kidneys of such individuals at autopsy. There is no uniformity in the nature of the lesion described by these different investigators; the descriptions include "scattered focal glomerular lesions," "acute interstitial nephritis," "degeneration of the tubular epithelium" and "congestive medullary changes." Kirsner[33] studied the kidneys of patients who had died following prolonged administration of alkali and failed to find any consistent lesion. In this con-

CAMP SUPPORTS for the OBESE PATIENT



OBESE PATIENT: When standing erect, her anterior abdominal wall sagged down upon her thighs.

Helping frail abdominal muscles hold the viscera and their intraperitoneal masses of fat in a better position within the abdominal cavity requires not only excellent support but also a definite procedure in applying the supporting garment.

All Camp surgical fitters are taught that —

Measurements must be taken firmly at the hips and loosely at the waist line with the patient in the supine position —

The support must be fitted and applied in the supine position —

The patient must be impressed with the necessity of lying down while putting on her support for daily wear.

While essential weight reduction is in progress, Camp Supports — specially designed, properly applied and consistently worn — will relieve the discomfort and many of the symptoms from which the obese patient suffers.

The unique Camp adjustment permits the utmost flexibility in fitting the individual patient and following prescription directions.

S. H. CAMP and COMPANY, Jackson, Mich. • *World's Largest Manufacturers of Scientific Supports*
Offices in NEW YORK · CHICAGO · WINDSOR, ONTARIO · LONDON, ENGLAND

nection it is important to remember the demonstraton by Eisele[34] that in the presence of renal disease the kidneys excrete base slowly and alkalosis develops rapidly even when the dose of antacid is small. Bradley[2] suggests that in some of the reported cases of azotemia due to alkalosis there may have been unrecognized renal damage prior to the administration of the alkali. However, be this as it may, it seems clear that dehydration alone cannot account for the azotemia observed in many of the cases in the literature.

HEPATORENAL SYNDROME

The hepatorenal syndrome refers to the clinical situation in which signs of renal failure appear in a patient with hepatic damage presumably as a result of the action of nephrotoxins derived either from the damaged liver itself or accumulating in the blood stream as a result of the inability of the liver to remove or detoxify them. There are many conflicting ideas regarding this syndrome, and it is not even certain that a cause and effect relationship exists between the hepatic dysfunction and the renal insufficiency. For example, Wilensky[35] has shown that intoxication with heavy metals, chloroform, cinchopen, dioxane, diethyleneglycol, or carbon tetrachloride causes simultaneous and presumably independent damage to both the liver and kidneys. Moreover, acute glomerulonephritis may occur during or following the course of active liver disease, and give a clinical picture indistinguishable from the hepatorenal syndrome. Moon[36] has presented experimental evidence and Wilson et al[37] and Boyce[38] have made clinical observations suggesting that shock may produce hepatic damage. Shock may also result in sufficient slowing of renal blood flow to produce impaired renal function. Boyce[39] administered aqueous extracts of the liver of two patients, who died "liver deaths" following cholecystectomy, to dogs and subsequently found degenerative lesions of both the livers and kidneys of these animals. Thus the hepatorenal syndrome is, indeed, a syndrome and not an entity, and many different mechanisms may contribute to the renal impairment in different cases.

GASTROINTESTINAL HEMORRHAGE

A marked elevation of the blood nonprotein nitrogen may occur following massive hemorrhage into the upper gastrointestinal tract. Many attempts have been made to evaluate the renal factor in this type of azotemia. Sanguinetti[40] found that three patients with elevated blood urea levels following hematemesis were able to excrete a concentration of from 30 to 38 grams of urea per liter of urine and believed that this excluded renal insufficiency. Ingegno[41] emphasized the normal blood pressure, high urine specific gravity and normal urinary findings of his patients with alimentary azotemia. Stevens and his associates,[42] Chunn and Harkins[43] and Yuile and Hawkins[44] all found no change in renal function following hematemesis; it was the opinion of these investigators that the digestion and absorption of blood with the resultant formation of urea is sufficient to account for the azotemia.

On the other hand, Black[45] reported a urea clearance of less than 47 per cent in four patients and less than 65 per cent in seven of the twelve patients with hematemesis whom he studied. All but two of these patients showed a significant rise in the clearances one week later. Johnson[46] and Alsted[47] have made similar observations. All three of these investigators felt that the impairment of renal function was secondary to the lowering of the arterial blood pressure resulting from the hemorrhage.

On the basis of the available data it seems likely that excess absorption of nitrogen from digested blood in the upper gastrointestinal tract is sufficient to account for the azotemia except in those cases in which there is peripheral circulatory collapse. In the latter situation, decreased blood volume with lowered blood pressure interferes with renal blood flow and glomerular filtration thus contributing to the nitrogen retention.

SUMMARY

Many different factors are involved in the pathogenesis of the renal insufficiency which occurs in so many different extrarenal disorders. A proper evaluation of these factors is of vital importance not only from the standpoint of prognosis but also from the standpoint of therapy. Treatment of shock or congestive heart failure and correction of dehydration or salt depletion as the case may be can be expected to result in dramatic improvement in renal function in many cases.

600 S. Kingshighway.

BIBLIOGRAPHY

1. Fishberg, A. M.: Prerenal Azotemia and Pathology of Renal Blood Flow, Bull. New York Acad. Med. **13**:710-732, 1937.
2. Bradley, S. E.: The Pathogenesis of Renal Insufficiency, New England J. Med. **233**:498, 1945, and **233**:530, 1945.
3. Jeghers, H., and Bakst, H. J.: Syndrome of Extrarenal Azotemia, Ann. Int. Med. **11**:1861-1899, 1938.
4. McCance, R. A.: Medical Problems in Mineral Metabolism. I. Legacies of Evolution. II. Sodium Deficiencies in Clinical Medicine. III. Experimental Human Salt Deficiency, Lancet **1**:643-650, 704-710, 765-768 and 823-830, 1936.
5. Clausen, J.: Studies on Relation Between Hyperazotemia and NaCl Deficiency, Acta. Med. Scandinav. **91**:523-540, 1937.
6. Hiatt, E. P.: Extreme Hypochloremia in Dogs Induced by Nitrate Administration, Am. J. Physiol. **129**:597-609, 1940.
7. Hopper, J., Jr., Elkinton, J. R. and Winkler, A. W.: Plasma Volume of Dogs in Dehydration, With and Without Salt Loss, J. Clin. Investigation **23**:111-117, 1944.
8. Winkler, A. W., Elkinton, J. R., Hopper, J., Jr., and Hoff, H. E.: Experimental Hypertonicity; Alterations in Distribution of Body Water and Cause of Death, J. Clin. Investigation **23**:103-109, 1944.
9. Bradley, S. E., and Bradley, G. P.: Unpublished Data Referred to in Reference 2.
10. Lauson, H. D., Bradley, S. E. and Cournand, A.: Renal Circulation in Shock, J. Clin. Investigation **23**:381-402, 1944.
11. Talbott, J. H., Pecora, L. J., Melville, R. S. and Consolazio, W. V.: Renal Function in Patients with Addison's Disease and in Patients with Adrenal Insufficiency Secondary to Pituitary Pan-hypofunction, J. Clin. Investigation **21**:107-119, 1942.
12. Smith, H. W.: Lectures on the Kidney. 134 pp. Lawrence, Kansas; Univ. of Kansas, 1943.
13. Brown, G. E., Eusterman, G. B., Hartman, H. R. and Rowntree, L. G.: Toxic Nephritis in Pyloric and Duodenal Obstruction: Renal Insufficiency Complicating Gastric Tetany, Arch. Int. Med. **32**:425-455, 1923.
14. McLetchie, N. G.: B. Renal Lesions in Case of Excessive Vomiting. J. Path. and Bact. **55**:17-22, 1943.
15. McCance, R. A. and Widdowson, E. M.: Alkalosis with Disordered Kidney Functions: Observations on Case, Lancet **2**:248-249, 1937.
16. Chasis, H., Ranges, H. A., Goldring, W. and Smith, H. W.: Control of Renal Blood Flow and Glomerular Filtration in Normal Man, J. Clin. Investigation **17**:683-697, 1938.
17. Harrison, T. R.: Failure of the Circulation, ed. 2, 502 pp. Baltimore: Williams and Wilkins Company, 1939.

18. Fishberg, A. M.: Heart Failure, ed. 2, 829 pp. Philadelphia: Lea and Febiger, 1940.
19. Warren, J. V., and Stead, E. A., Jr.: Fluid Dynamics in Congestive Heart Failure: Interpretation of Mechanisms Producing Edema, Increased Plasma Volume and Elevated Venous Pressure in Certain Patients with Prolonged Congestive Failure, Arch. Int. Med. **73**:138-147, 1944.
20. Seymour, W. B., Pritchard, W. H., Longley, L. P. and Hayman, J. M., Jr.: Cardiac Output, Blood and Interstitial Fluid Volumes, Total Circulating Serum Protein, and Kidney Function During Cardiac Failure and after Improvement, J. Clin. Investigation **21**:229-240, 1942.
21. Lyall, A. and Anderson, A. G.: Diabetic Coma: Significance of Alteration in Blood Urea, Quart. J. Med. **25**:353-360, 1932.
22. McCance, R. A. and Lawrence, R. D.: Secretion of Urine in Diabetic Coma, Quart. J. Med. **4**:53-79, 1935.
23. Kimmelstiel, P. and Wilson, C.: Intercapillary Lesions in Glomeruli of Kidney, Am. J. Path. **12**:83-98, 1936.
24. Loeb, R. F.: Adrenal Cortex and Electrolyte Behavior. The Harvey Lectures, Ser. **37**:100-128, 1941.
25. Harrison, H. E. and Darrow, D. C.: Renal Function in Experimental Adrenal Insufficiency, Am. J. Physiol. **125**:631-643, 1939.
26. Corey, E. L., Silvette, H. and Britton, S. W.: Hypophyseal and Adrenal Influence on Renal Function in Rat, Am. J. Physiol. **125**:644-651, 1939.
27. Barker, N. W.: Pathologic Anatomy in 28 Cases of Addison's Disease, Arch. Path. **8**:432-450, 1929.
28. Guttman, P. H.: Addison's Disease: Statistical Analysis of 566 Cases and Study of Pathology, Arch. Path. **10**:742-785, and 895-935, 1930.
29. Nicol, B. M.: Renal Changes in Alkalosis, Quart. J. Med. **9**:91-105, 1940.
30. Hardt, L. L. and Rivers, A. B.: Toxic Manifestations Following Alkaline Treatment of Peptic Ulcer, Arch. Int. Med. **31**:171-180, 1923.
31. Cooke, A. M.: Alkalosis Occurring in Alkaline Treatment of Peptic Ulcers, Quart. J. Med. **1**:527-541, 1932.
32. Oakley, W.: Alkalosis Arising in Treatment of Peptic Ulcer, Lancet **2**:187-190, 1935.
33. Kirsner, J. B., Palmer, W. L. and Hemphreys, E. M.: Morphologic Changes in Human Kidney Following Prolonged Administration of Alkali, Arch. Path. **35**:207-225, 1943.
34. Eisele, C. W.: Changes in Acid-base Balance During Alkali Treatment for Peptic Ulcer: Clinical Analysis of Alkalosis in 28 Patients, Arch. Int. Med. **63**:1048-1067, 1939.
35. Wilensky, A. O.: Occurrence Distribution and Pathogenesis of So-called Liver Death and/or Hepatorenal Syndrome, Arch. Surg. **38**:625-691, 1939.
36: Moon, V. H.: Shock and Related Capillary Phenomena. 442 pp. New York: Oxford University Press, 1938.
37. Wilson, W. C., MacGregor, A. R. and Stewart, C. P.: Clinical Course and Pathology of Burns and Scalds Under Modern Methods of Treatment. Brit. J. Surg. **25**:826-865, 1938.
38. Boyce, F. F.: Hepatic (Hepatorenal) Factor in Burns, Arch. Surg. **44**:799-818, 1942.
39. Boyce, F. F.: The Role of the Liver in Surgery. 365 pp. Springfield: Charles C. Thomas, 1940.
40. Sanguinetti, L. V.: Azoemias en el curso de las hemorragias retenidas a nivel del tubo digestivo (estudio clinico y experimental), Arch. argent. de enferm. d. ap. digest. y de la nutricion, **9**:264, 1934.
41. Ingegno, A. P.: The Elevated Blood Urea of Acute Gastrointestinal Hemorrhage and its Significance, Am. J. M. Sc. **190**:770, 1935.
42. Stevens, R. J., Schiff, L., Lublin, A. and Garber, E. S.: Renal Function and Azotemia Following Hematemesis, J. Clin. Investigation **19**:233-237, 1940.
43. Chunn, C. F. and Harkins, H. N.: Alimentary Azotemia: Clinical Syndrome Occurring as Part of Bleeding Peptic Ulcer Complex, Am. J. M. Sc. **201**:745-749, 1941.
44. Yuile, C. L. and Hawkins, W. B.: Azotemia Due to Ingestion of Blood Proteins: Blood Urea Increase Related to Ingestion of Whole Blood, Red Cells, Plasma, and Other Proteins, Am. J. M. Sc. **201**:162-167, 1941.
45. Black, D. A. K.: Critical Review: Azotemia in Gastroduodenal Hemorrhage, Quart. J. Med. **11**:77-104, 1942.
46. Johnson, J. B.: Pathogenesis of Azotemia in Hemorrhage from Upper Gastrointestinal Tract, J. Clin. Investigation **20**:161-168, 1941.
47. Alsted, G.: Further Studies on Azotemia Following Hemorrhage in the Digestive Tract, Am. J. M. Sc. **192**:199, 1936.

SPONTANEOUS RUPTURE OF THE SPLEEN IN BENIGN TERTIAN MALARIA

WILLIAM W. FELLOWS, M.D.

ASPINWALL, PA.

Since the return of several million veterans from military campaigns in countries in which malaria is prevalent, the presence of active malaria in the civilian population is quite common. The cases appear not only in veterans who have actually had the active disease while in the military service, but also in those who have discontinued the suppressive doses of atabrine upon their return to this country and have then had the dormant malaria become initially active as a result. During the last three months approximately 250 cases of active benign (plasmodium vivax) malaria have been treated in this Veterans Hospital and a much larger number of cases have been cared for in their homes. Because the average civilian physician is unaccustomed to dealing with malaria, many mistakes in diagnosis are made and the following case history is presented as illustrative of an uncommon complication of the disease in the hope that it may aid in making the medical profession more "malaria conscious."

From the Surgical Service, Veterans Administration Hospital, Aspinwall, Pa.

Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.



Fig. 1. View of concave surface of spleen showing rupture and nonadherent capsule.

CASE REPORT

W. L., a 24 year old veteran, was admitted to the hospital December 9, 1945, at 8:00 p. m. He had recently served about thirteen months in New Guinea and Luzon and had been discharged from military service on November 19, 1945. During his military service, he had two attacks of malaria even though he was taking the regular suppressive dosages of atabrine. Since his discharge he had not felt well and had had an attack of malaria about one month prior lasting about one week. During the last week he had been having generalized body pains with anorexia. On the day before admission he had a chill and began vomiting greenish material. A few hours before admission he had another chill and began having pain in his upper abdomen. After being examined by his private physician he was taken to another federal hospital where arrangements were made for his transfer to this hospital by ambulance. While awaiting for the arrival of the ambulance, he vomited and went into a condition of deep shock with rapid thready pulse. The blood pressure fell to 50/40. He was given two units of blood plasma and in a short time his blood pressure had recovered to 90/60 and his general condition had improved to the point that he was thought to be transportable to this hospital.

Upon his arrival at 8:00 p. m., he was having severe, generalized, upper abdominal pain which was worse on the left side than the right. He was in deep shock with pallor, sweating and rapid, thready pulse with a

rate of 120. The blood pressure had again fallen to 60/40, and the temperature was 97.8 F. The respirations were shallow with an expiratory grunt and at a rate of 30 per minute. Attempts at deep inspiration increased the pain. The abdomen was of normal contour and no distention was present. There was moderate tenderness but only slight resistance in the upper abdomen, slightly greater on the left than on the right side. The spleen was easily palpable about one finger breadth below the left costal arch. It was not particularly tender. The blood examination revealed 2,480,000 red blood cells with 8.5 grams of hemoglobin (49.1 per cent) and with moderate polychromatophilia and achromia present. Several ring forms of tertian malaria (plasmodium vivax) were seen on the smear. There were 3,850 white blood cells with 71 per cent of polymorphonuclears.

A diagnosis of ruptured enlarged spleen was given with acute hemorrhage superimposed on chronic malaria with accompanying secondary anemia. Immediate surgery was not thought to be practical because of the severe shock and treatment was instituted to combat the shock. This consisted of elevation of the foot of the bed and the administration of an additional unit of plasma followed by transfusion of 500 cc. of citrated blood. He also was given one dose of ¼ grain of morphine. Three grains of atabrine were given every three hours. By 1:00 a. m. the patient had reacted quite favorably. The pulse had dropped to 90 per minute and was of good volume. The blood pressure was 110/70. The respirations had slowed to 20 per minute.

On the following morning there was still further improvement. The pulse was 104 per minute but the blood pressure had risen to 120/70. There were 2,420,000 red blood cells and 3,700 white blood cells. The patient was having less abdominal pain. There was generalized abdominal tenderness most marked in the upper part. There was shifting dulness in both flanks. The patient had a considerable amount of cough which caused pain in both sides of his upper abdomen. Physical examination of the chest showed it normal and a bedside chest roentgen ray was normal. It was thought at that time that the bleeding had stopped and that most of the patient's symptoms were resulting from irritation caused by blood in the peritoneum. Surgery was not thought to be urgent and the decision was made to observe him for a few more hours on conservative management. Penicillin was started because it was suspected that, under whatever form of treatment would be carried out eventually, he would probably have pulmonary complications.

He was observed again about five hours later. At that time there were no further signs of shock since the blood pressure remained at 120/70. The temperature, pulse and respirations, however, had risen being 100.8 F., 120 and 26 per minute respectively. The abdominal tenderness was more marked and there was generalized abdominal rigidity. The cough had increased and inspiration was grunting and more painful than formerly. Immediate laparotomy was decided upon.

This was carried out during the afternoon approximately twenty-four hours after the onset of his abdominal pain and about twenty hours after the onset of shock. The operation was done under spinal anesthesia through an upper left, rectus, muscle splitting incision extending from the costal arch well below the level of the umbilicus. Large amounts of fluid and clotted blood filled the abdomen and a very large spleen was easily observed. Palpation of the diaphragmatic portion of the upper pole of the spleen revealed a rupture of the capsule in that region. No adhesions were present. The spleen was quickly delivered through the laparotomy wound, its pedicle clamped and it was removed. The vessels of the pedicle were ligated. Most of the blood was removed from the abdomen manually and by aspiration and the abdomen was closed in layers without drainage. Silk retention sutures, interrupted catgut and skin clips were used. During the operation the patient was given 1,000 cc. of citrated whole blood and 1,000 cc. of 10 per cent glucose in normal saline. He left the operating room in good condition with a blood pressure of 110/50 and pulse rate of 120 per minute.

The removed spleen was swollen to enormous size, roughly 20 by 14 by 8 cm., and weighed 980 gms. There was a gross rupture of the capsules which measured 6 by 8 cm. at the medial end involving both the diaphragmatic and visceral surfaces. The torn capsule stripped off easily. The exposed pulp was reddish purple and of a soft, mushy consistency. There was evidence of some loss of pulp from this area. On cut section the spleen contained large prominent Malpighian corpuscles. Blood oozed from the cut surface. The splenic pulp was easily scraped away.

Some of this pulp was mashed on slides and stained. Careful study of these slides failed to show any evidence of malarial parasites. Histologic sections of the spleen revealed sinusoids engorged with red blood cells. The trabeculae were crowded apart and appeared decreased in number. The lymphatic nodules were almost covered by the red cells. The cells of the splenic pulp were widely spread apart. The reticulo-endothelial cells were many and contained brown pigment. There were prominent hemosiderin deposits and numerous "ghost" red blood cells. Although there were suggestive malarial schizonts, no intact malarial parasites could be identified on the sections. A pathologic diagnosis of splenomegaly with rupture was made. It was considered highly probable that it was of malarial origin.

His convalescent course was uneventful. He was continued on penicillin and atabrine and after the fifth postoperative day, his temperature, pulse and respiration remained normal. No pulmonary complications were noted although he was annoyed for a few days by a cough toward the end of the first week. He was discharged from the hospital on January 4, 1946, with instructions to continue a daily dose of one and one half grains of atabrine for ninety days. At that time his blood count had risen as follows: 4,500,000 red blood cells, with 15.6 grams of hemoglobin (90 per cent), white blood cells 9,800 with 46 per cent polymorphonuclears and 54 per cent lymphocytes. Repeated search for malaria parasites had been unsuccessful.

A recent personal communication from the Director of the Army Institute of Pathology states that their files contain forty-three reports of cases classified as spontaneous rupture of the spleen. Twenty-two of these were classified as malarial. Ten of the twenty-two had splenectomies performed with four deaths. It is presumed that the remaining unoperated cases died.

Kellman, Hochstein and Tillman[1] in reporting a fatal case of spontaneous rupture of an enlarged spleen due to benign malaria state that in a communication from the same source only three similar cases were on file, two of which had been diagnosed postmortem and the third operated upon successfully. It is therefore presumed that the additional cases on file were complications of chronic malaria or malignant tertian malaria (plasmodium falciparum) or therapeutic malaria in the treatment of syphilis. Moses[2] in reporting a case of spontaneous

Introducing a new treatment for

COMMON EYE INFECTIONS



Sodium sulfacetimide is the only sulfonamide which can be dissolved to a concentration as high as 30 per cent at physiologic pH. It is, therefore, both surpassingly bacteriostatic against a wide variety of organisms and virtually non-irritating—attributes which make it an especially valuable topical chemotherapeutic agent for prophylaxis and treatment of infections of delicate ocular tissues. SODIUM SULFACETIMIDE SOLUTION 30% has marked and rapid penetrating powers when applied locally in the form of eyedrops, reaching a high concentration in the cornea and conjunctiva within five minutes.

SODIUM SULFACETIMIDE SOLUTION 30% (*Sodium* SULAMYD)

is indicated for the local treatment of acute infectious conjunctivitis, acute corneal ulcer, acute blepharoconjunctivitis, hypopyon keratitis and for prophylaxis following foreign body injuries and abrasions of the cornea and conjunctiva.

Dosage: One drop placed in the affected eye every two to four hours. Available on prescription in 15 cc. amber, eyedropper bottles.

Trade-Mark SULAMYD—Reg. U.S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD, N. J.

IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

splenic rupture in therapeutic malaria with splenectomy and recovery cites eleven cases from the literature of such an accident, none of which recovered. Marshall[3] and Russ and Gaynor[4] have each recently reported a recovered case in many respects similar to the present one. Therefore it is believed that this complication will be seen with increasing frequency during the following two years.

The diagnosis is made upon seeing a patient in shock from probable internal hemorrhage who has recently had active tertian malaria. It is notable that in reviewing the histories of most of the recovered cases, operative procedures were carried out several hours after the accident occurred while in the fatal cases, death occurred quite promptly in spite of supportive measures. Most of the patients have a palpable spleen and experience both upper abdominal pain and also pain in the left side. Abdominal rigidity begins several hours after the accident.

The treatment consists of treating the shock primarily, followed by splenectomy. The operation should be aided by copious blood transfusions both before and during the operative procedure.

Veterans Administration Hospital.

BIBLIOGRAPHY

1. Kellman, A.; Hochstein, E., and Tillman, A. J. B.: Spontaneous Rupture of the Spleen in Malaria, J.A.M.A. **128**:1227 (Aug. 25) 1945.
2. Moses, W. R.: Splenic Rupture in Therapeutic Malaria, South. M. J. **38**:745 (November) 1945.
3. Marshall, J. C.: Spontaneous Rupture of the Malarial Spleen, U. S. Nav. Med. Bull. **43**:743 (October) 1944.
4. Russ, S. E., and Gaynor, J. S.: Spontaneous Rupture of a Malarial Spleen, J.A.M.A. **127**:758 (March 31) 1945.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX, No. 9, September, 1946.

WHAT PUBLIC HEALTH EXPECTS OF THE PRIVATE PHYSICIAN

It is probable that less than half of the active cases of tuberculosis have been known to the authorities at any time in the past thirty years or are today so known. A recent report of the Minnesota State Board of Health states, "In 1910 there were more than three times as many deaths from tuberculosis as there were reported cases. Tuberculosis is a reportable disease, but it has never been adequately reported."

Thirteen states in 1944 showed a ratio of more than three cases of tuberculosis reported for each death from this disease within the same year, Wisconsin leading with 3.70 cases per death. Yet evidence is abundant that probably between seven and ten cases per annual death from tuberculosis could be discovered and reported if all resources of medicine were used to full advantage.

The citizen may well ask why! Is a requirement of the Board of Health, having the force and effect of a law, to be disregarded with impunity? May I respond to the title of my discussion by saying that the humblest expectation of public health is that physicians recognize tuberculosis prior to the

Metrazol - *Powerful, Quick Acting Central Stimulant*
COUNCIL ACCEPTED

ORALLY - for respiratory and circulatory support
BY INJECTION - for resuscitation in the emergency



Metrazol, pentamethylentetrazol, Trade Mark Bilhuber.

INJECT 1 to 3 cc. Metrazol as a restorative in circulatory and respiratory failure, in barbiturate or morphine poisoning and in asphyxia. PRESCRIBE 1 or 2 Metrazol tablets for a stimulating-tonic effect to supplement symptomatic treatment of chronic cardiac disease and fatigue states.

AMPULES - 1 and 3 cc. (each cc. contains 1½ grains.)
TABLETS - 1½ grains.
ORAL SOLUTION - (10% aqueous solution.)

Bilhuber-Knoll Corp. Orange, N. J.

patient's death and report every infected person receiving medical care, whether or not such patients are discharging tubercle bacilli.

Until the practicing physician reports all cases of tuberculosis whether open or closed, positive or negative sputum, to the Division of Health at once on making provisional or suspected diagnosis we of the public health workers in official and voluntary agencies cannot give the community, the family, the fellow workmen, a protection to which they are entitled.

The physician in private practice is not only the sole representative of society licensed to deal responsibly before the law with life and death, but he is the medical conscience of the community. Upon his precise, prompt, wholehearted cooperation, the structure of modern public health depends. If in a mistaken spirit of economic self-protection he opposes publicly adopted policies of disease prevention and control within the framework of sanitary law, he tends to undermine his professional prestige and provides ammunition for those who would challenge the present system of medical practice. Some physicians and even specialists in tuberculosis consider that apparently healed so-called reinfection type tuberculosis is of no concern to public authority and they accept no obligation to report such patients. This is a practice that interferes with both epidemiological and public health services indispensable to the proper functioning of a control system.

Among the factors leading to delay in the reporting of cases of tuberculosis is the physician's inclination to spare the feelings of patient and family by not declaring the diagnosis and then by attempting to care for the patient at home as long as the family pays for his services. I am not at the moment concerned with the ethical weakness of the physician's position in such cases, but solely with the effect upon the origin and spread of the infection in the community.

Home care of the tuberculous is of course possible but except under relatively rare conditions whether for the well-to-do or for the wage-earner, it is a distinctly second-best choice from the point of view of therapy and permits almost inevitable transmission of infection to household contacts. When we recall the high probability of infection of nurses under even rigid hospital discipline and with excellent equipment and management in sanatoriums, we cannot doubt the higher probability of such infection in home care of the tuberculous.

It is well to remind ourselves that the progress in control of tuberculosis has been in spite of incomplete and delayed reporting, in spite of the insidious and silent nature of early pulmonary disease and in spite of the lack of any specific resources for creating immunity or for cure in the chemotherapeutic sense.

We know so much we do not use that there is no excuse for discouragement. The question is one of relative speeds or progress, always with the hope that within our lifetime, our offspring will escape wholly what we know has decimated our predecessors and cruelly handicapped our contemporaries. When my grandparents made their home in New York City in 1838 the death rate from tuberculosis was not less than 300. Our grandchildren are living in the same city where a rate of 45 is current today. We can guarantee freedom of the succeeding generations from tuberculosis if we undertake two programs—one of discovery of pulmonary tuberculous disease and the other of isolation or adequate supervision of persons discharging the tubercle bacillus.

What the public health expects of the private physician is no more and no less than it requires of every other citizen, that is prompt compliance with the law. Popular opinion and medical tradition look to the medical profession with confidence to give accurate diagnosis, humane treatment to the sick and prevent the spread of communicable disease from the sick to the well. The medical profession has exercised the disciplines of education and of ethics among its members. Any failures of standards will be best corrected by the organized local and state medical societies.

King Edward VII of England, when told that tuberculosis was a preventable disease, asked why it had not been prevented. It can be prevented in our time if we use our present resources.

What Public Health Expects of the Private Physician, Haven Emerson, M.D. Minnesota Medicine, January, 1946.

IS TUBERCULOSIS FULLY REPORTED?

The United States Public Health Service has released statistics on the number of cases of tuberculosis reported in relation to the number of deaths by states. The wide variations between states implies either that tuberculosis is much more frequent in some states than in others or that the thoroughness of tuberculosis case reporting varies widely. The evidence suggests that it is the recording of cases of tuberculosis in many parts of this country that is incomplete. Unless this deficiency can be remedied it is almost impossible to evaluate the tuberculosis problem in the United States. Physicians are responsible for reporting all cases of tuberculosis to their local health departments and should see to it that this obligation is fulfilled.

Editorial, Journal of the American Medical Association, February 2, 1946.

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX. No. 10. October, 1946.

Travel by air has become so commonplace that it is easy to overlook the fact that the altitude to which commercial planes ascend constitutes a risk to individuals whose pulmonary tuberculosis is un-

der treatment by means of pneumothorax. The recent report* of the death, during flight, of a patient under treatment by pneumothorax, sharply emphasizes this hazard.

EFFECT OF ALTITUDE ON CASES OF PNEUMOTHORAX

One of the most useful forms of treatment for cases of pulmonary tuberculosis is artificial pneumothorax. Since a great number of people having an artificial pneumothorax wish to fly by air in the course of business it is very important that a correct understanding of what happens in the pneumothorax, at varying altitudes, be thoroughly appreciated.

Boyle's law states that, if the temperature remains constant, the volume occupied by a given quantity of gas varies inversely as the absolute pressure exerted upon it or, conversely, if the gas cannot expand, the differences of pressure correspondingly increase. The law covers the behaviour of gas in a thoracic cavity as in pneumothorax, during ascent and descent in an airplane.

During the war, experiments were carried out in a specially constructed chamber in which it was possible to reproduce exactly the same air pressure as at varying altitudes. An X-ray and fluoroscope were fitted in the chamber and the effect of ascent from ground level to any height desired was watched in each case. The patient was first X-rayed at ground level, then X-rayed and screened every 1,000 feet until he had reached a height beyond which it would not be advisable to proceed lest the pneumothorax were pushed beyond a safe collapse.

Various factors alter the height to which it is safe to go. In a case without adhesions and with a fixed mediastinum, with the collapse necessary to prevent the disease being active, greater heights will be possible if the lung is allowed almost to re-expand before the flight. The value of going to these heights, however, will be outweighed by the damage done to the intra-pulmonary lesion by allowing too much re-expansion of the lung.

A gradual collapse of the lung will occur as the altitude increases which the patient will notice at about 6,000 feet. At 8,000 feet, he will probably feel very tight in the chest and will be breathless on slight exertion. The limit beyond which it is not safe to proceed is generally 9,000 feet in these cases. Those with a mobile mediastinum can proceed to about 11,000 feet if the opposite lung is allowed to become compressed, but this is not to be recommended.

Cases with adhesions should never go above 6,000 feet. Two cases with apical adhesions were able to proceed to 9,000 feet although they complained of feeling very dyspnoeic and tight in the chest. Both, at a later date, developed fluid which necessitated a thoracoplasty being performed. The same facts held good in pneumothoraces in which part of a lobe, or a whole lobe, was adherent to the chest wall. When these cases are at an altitude of about 8,000 feet the pulse is considerably increased and the vital capacity greatly reduced. In addition, there is dyspnoea and tight feeling in the chest. The drop in vital capacity is more in cases of mobile mediastinum than in fixed mediastinum, or cases with adhesions. In the experiments mentioned, where there was a mobile mediastinum the vital capacity at ground level was 2,550, and fell to 1,600 at 8,000 feet where one with fixed mediastinum only fell from 3,000 to 2,500.

The length of time it is possible to remain at the highest altitude to which it is safe to go is important. If it is necessary to fly at this higher altitude for any time over ten minutes, then at other times during the flight 6,000 feet should not be exceeded.

Cases of pulmonary tuberculosis who have had other forms of treatment, such as phrenic crush or thoracoplasty, can, of course, fly to much greater altitudes without ill effects. One case of thoracoplasty, in an R.A.F. pilot, was taken to 30,000 feet without ill effects. Those who have had no treatment other than sanatorium routine, can fly to the same height as a normal individual without harm to their pulmonary lesions.

Pleural effusion cases clearly should not fly during the active phase when fluid is present, but once the case has been arrested and the fluid absorbed, they can fly just as any normal person.

No harm should befall cases of pneumothorax if they do not fly above 6,000 feet as a rule, nor above 9,000 feet in a shorter emergency not exceeding ten minutes.

In days to come, when pressure cabins are a general rule in airplanes, pneumothorax cases should be able to fly at any altitude to all parts of the world.

Effect of Altitude on Cases of Pneumothorax, Geoffrey S. Todd, NAPT Bulletin, April, 1946.

EFFECT OF ALTITUDE ON ABNORMAL ACCUMULATIONS OF AIR IN THE CHEST

A patient with uncomplicated pneumothorax carrying 1,000 cc. of intrapleural air at sea level will have the equivalent of 1,270 cc. at 6,000 feet, 1,490 cc. at 10,000 feet and 2,120 cc. at 18,000 feet. We believe air travel for patients with pneumothorax should be restricted to those who would have no respiratory or circulatory distress and no physical discomfort if the abnormally accumulated air in the chest were increased by 100 per cent. An increase of 50 per cent would be permissible if the patient did not have to fly above 10,000 feet. Adequate amounts of air should be removed prior to flight if dangerous increase in pulmonary collapse is expected at higher altitudes. The patient should breathe pure oxygen by mask if there is any possibility of hypoxia.

Effect of Altitude on Abnormal Accumulations

*Dowd, K. E., *Aviation Medicine,* October, 1945.

of Air in the Chest, Ezra Bridge and Ezra Bridge, The American Review of Tuberculosis, June, 1945.

DANGERS OF AERIAL TRANSPORTATION TO PERSONS WITH PNEUMOTHORAX

Evidence accumulated seems adequate to justify warning all patients with pneumothorax to avoid transportation by airplane unless they can be assured that no altitude will be attained beyond that which they have previously tolerated without discomfort. Even under the latter condition it is possible that some harm might be done to unstable tuberculous lesions by the rather large degrees of alternate expansion and collapse which may be occurring repeatedly during a flight, especially when there are frequent landings.

Dangers of Aerial Transportation to Persons With Pneumothorax, W. Randolph Lovelace II, M.D. and H. Corwin Hinshaw, M.D., Journal of the American Medical Association, April 11, 1942.

BOOK REVIEWS

TEXTBOOK OF PEDIATRICS. Mitchell-Nelson. Edited by Waldo E. Nelson, M.D., Professor of Pediatrics, Temple University School of Medicine; With the Collaboration of Forty-Nine Contributors. 519 illustrations on 333 figures, 26 in color. Fourth Edition, revised. Philadelphia and London: W. B. Saunders Company. 1945. Price: $10.00.

This textbook is a successor to the Griffith and Mitchell text. The current editor "grew up in pediatrics under the tutelage of Dr. Mitchell of Cincinnati." Really, Dr. Waldo Nelson has done a fine job, not only in the selection of his collaborators, who are largely the younger pediatricians of the country, but also in the enormous task of editing and unifying their contributions. I agree that "a textbook of pediatrics may be prepared which meets the needs of the undergraduate medical students and both pediatricians and general practitioners." This work is an honest attempt to meet this complex need. However, like most recent books on practical medicine, so many of the articles bear the impression of the doctor in the hospital rather than the practitioner, as "Possibly a third to a half of the infants and children admitted to a hospital with acute illness require parenteral administration of fluids." It is believed more stress should be laid on methods of preventing dehydration, and practitioners should be given definite directions for checking vomiting and even a diarrhea, so that sufficient fluids may be administered by mouth, and parenteral injections, disagreeable and painful, may be avoided. Again, celiac disease receives an exhaustive study covering ten pages, while diarrheal disorders are described in less than six pages, and here, too, the hospital procedures in treatment are emphasized. Diseases of the esophagus occupy the space of five pages, but the symptomatic treatment of vomiting is not mentioned.

While the discussion of nutrition is up to date, the directions for infant feeding are somewhat indefinite. After all the extensive studies of nutritional requirements only one milk formula is suggested that might meet the general approval of pediatricians. The preparation of cereal decoctions is left out entirely, but two pages are devoted to the composition of proprietary foods.

The section on diseases of the blood, as a whole, conscription is given of the common transitory coxitis of children. Much space is devoted to the skeletal defects. This is a comprehensive description and well illustrated, very fine indeed.

The section on disease of the blood, as a whole, contains all the essential facts needed by the medical student. The classification is also both reasonable and comprehensive.

The classification of diseases of the mouth is somewhat vague.

One is pleased to find a common sense attitude displayed toward the sociologic and psychologic aspect of pediatrics. Pediatricians have been bewildered in recent years by the vigorous assaults of psychologists on the negligence of physicians in promoting mental hygiene. "We will be glad to help if you will tell us how," was our answer to psychologists. But the psychologists could not agree on even the elementary drives or instincts. Congratulations to Dr. James S. Plant.

The infectious diseases receive extensive description. We commend the division into the bacterial diseases, spirochetal infections, virus infections, rickettsial diseases, mycotic infections, parasitic diseases and protozoan diseases. This should be a help to the student and practitioner. Some of us have been trying to separate an infection in which the tissues are more or less invaded from an infestation, that is, a parasitic habitation of a minute animal on the skin and mucus membrane. In this work the word infection is also applied to the parasitic affections.

There is a lengthy description of medullary infusions, but we found no directions for administering nasal gavage.

This is a large treatise, 1,350 pages. Some of its articles are masterpieces, others leave much to be desired. This is inevitable in such a volume where different topics are written by forty-nine contributors. As a textbook for students in the hospital this book will be generally acceptable. We believe that the contents omit many valuable procedures that are useful to the pediatrician in private practice. J. Z.

ONE HUNDRED YEARS OF GYNAECOLOGY. A Comprehensive Review of the Specialty During Its Greatest Century With Summaries and Case Reports of All Diseases Pertaining to Women. By James V. Ricci, A.B., M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Director of Gynaecology of the City Hospital, New York; Director of Gynaecology and Obstetrics, Columbus Hospital; Attending Gynaecologist and Obstetrician, Flower and Fifth Avenue Hospitals, New York; Consultant in Gynaecology and Obstetrics, Downtown Hospital, New York; Fellow of the New York Academy of Medicine; Department of Gynaecology and Obstetrics of the City Hospital, New York. Philadelphia: The Blakiston Company. 1945. Price $8.50.

Dr. Ricci, in his preface, describes his work as a reference book, an attempt "to amass in one handy volume enough reference data to facilitate the task of the inquiring and 'literary' gynaecologist." To this end his material is arranged in thirty-three chapters covering the major fields of gynaecology. These chapters are then subdivided into smaller sections, under which case reports, summaries and references are listed in chronologic order, the sources of these being listed in copious footnotes.

Source books usually have something in common with logarithm tables; they are useful, time saving devices but not very inspiring reading. Dr. Ricci, however, occasionally diverges from his stated purpose and appears as a medical historian. The first chapter, devoted to a summary of the major trends in medicine and the related sciences in the nineteenth century, is a masterful piece of writing, while the last chapter, a fragment from the writings of Henry Clarke Coe, provides a delightful glimpse into the professional life of that gynaecologist. Between these, sandwiched in among names, dates and subjects, there are brief ex-

Advertisement



From where I sit
by Joe Marsh

Bert Childers and the Melon Patch

Bert Childers put an ad in the Clarion the other day. Here's what it said:

"Planted more melons than I can eat this year. Stop by and pick as many as you want. All free."

As you can guess, plenty of folks sent their kids over and plenty of the parents came too. Stripped Bert's melon patch in no time. And as they went away, Bert treated the kids to lemonade, and offered the grownups a glass of ice-cold sparkling beer.

Naturally it puzzled some folks . . . but Bert explains: "It gives me a kick to share things when I can afford to—whether it's the melons, or the lemonade, or beer. I guess I just like to indulge my whims."

From where I sit, if we had more "self-indulgent" people like Bert—who believe in share and share alike, live and let live, this tired world would be a whole lot better off!

Joe Marsh

Copyright, 1946, United States Brewers Foundation

cerpts from the medical literature listed and comments by the author, which provide the persevering reader with a clear and ofttimes amusing picture of the foibles and accomplishments of the gynaecologists of the nineteenth century. M. E. H.

Clinical Parasitology. By Charles Franklin Craig, M.D., M.A., (Hon) F.A.C.S., F.A.C.P., Colonel, United States Army (Retired), D.S.M.; Formerly Director, Army Medical School, and Assistant Commandant, Army Medical Center, Washington, D. C.; Emeritus Professor of Tropical Medicine in The Tulane University of Louisiana, New Orleans, Louisiana; and Ernest Carroll Faust, M.A., Ph.D., Professor of Parasitology in the Department of Tropical Medicine, Tulane University of Louisiana, New Orleans, Louisiana; Consultant to the Secretary of War, Army Epidemiologic Board on Epidemic and Tropical Diseases; Consultant U. S. Public Health Service; Honorary Consultant, Army Medical Library. Fourth Edition, Thoroughly Revised. Illustrated with 305 Engravings and 4 Colored Plates. Philadelphia: Lea & Febiger. 1945. Price $10.00.

The fourth edition of Craig and Faust's well-known book on parasitology is before us for review. They are two authorities who need no introduction to the medical profession at our hands. They both have had years of experience and have made a most exhaustive study of parasitology in its application to medicine.

The revision of this book consists largely of a separate topic on "pathogenesis" with each important parasite considered. There is a separate chapter devoted to "The Geographical Distribution of Parasitic Infections." Further and full information is given on diseases of virus, rickettsial, bacterial and spirochetal origin. The demand for control of disease is responsible for the development of new preventive technics, which are presented in the "Technical Appendix."

At this time, when the interest in these diseases is so great, the reader will find this textbook a valuable manual to have at hand in dealing with or studying the various diseases caused by parasites.

We were particularly impressed with the chapter on the "Rhizopoda," including the pathogenic ameba, especially the Endamoeba histolytica. One cannot, naturally, go into each chapter and each subject considered, but one can say in general that Craig and Faust continue to have the classic American textbook on this subject. R. B. H. G.

Nursing and Nursing Education. By Agnes Gelinas, R.N., A.M., Professor of Nursing and Chairman of the Skidmore College Department of Nursing—New York Postgraduate Medical School and Hospital. New York. The Commonwealth Fund. 1946. Price $1.00.

This monograph is an excellent survey of nursing which can be read easily and quickly and should be read by those who wish to inform themselves about the development and trends of nursing and the education of nurses.

The first part of the book is devoted to a brief historical sketch of the development of nursing as a profession from the founding of the first schools of nursing in this country to the beginning of the recent war. This is followed by a discussion of recent and present problems of supply and demand, personnel policies and standards as they affect nursing. The last half of the book is given over to a discussion of nursing education problems and recommendations for their solution. The organization of the school of nursing, its curriculum and support, the teaching personnel, accreditation methods, the use of auxiliary workers and advanced nursing education are covered briefly in this section as well as a discussion of the probable demand for and supply of nurses in the postwar period for the various fields of activity in which nurses will be engaged. F. M. C.

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

OCTOBER, 1946

EDITORIALS

HOSPITAL SURVEY AND CONSTRUCTION

The Missouri Legislature has approved Senate Committee Substitute for House Bill No. 459. This act provides that the Division of Health of Missouri shall conduct a survey of all hospitals, both public and private, make a report of its findings and submit a state plan for the construction of hospital facilities to the Surgeon General of the United States Public Health Service. The act provides further for an Advisory Council of seven persons who are familiar with the needs of health services in urban and rural areas in Missouri. The Advisory Council will be appointed by the Governor.

The bill as enacted conforms with the national Hill-Burton bill, United States Senate Bill No. 191. Under the terms of the national bill, $75,000,000 of federal money is available to the states during each of the next five years beginning with 1947. It is expected that approximately $11,225,000 will be available for the State of Missouri. The federal funds are available on a matching basis. In every instance, either the state itself or a county, city or nonprofit hospital organization must furnish two thirds of the total cost of the hospital project and the government will supply the remaining one third of the cost.

It is expected that the Director of the Division of Health, R. M. James, M.D., will make arrangements to begin the survey as soon as the Advisory Council is appointed.

STREPTOMYCIN

In probably the most comprehensive report issued since streptomycin was first described in 1944, the September 7 issue of *The Journal of the American Medical Association* reviews the results obtained in the treatment of 1,000 cases of various infections with this new antibiotic drug which is derived from a soil microbe.

The report, based on a study carried out by fifty-five investigators, was prepared by the Committee on Chemotherapeutic and Other Agents of the National Research Council, composed of Drs. Chester S. Keefer, Boston, chairman; Francis G. Blake and John S. Lockwood, New Haven, Conn.; Perrin H. Long and E. K. Marshall, Jr., Baltimore, and W. Barry Wood, Jr., St. Louis.

The committee's report was released shortly after the Civilian Production Administration announced that designated hospitals would begin limited commercial distribution of streptomycin. More than 1,600 general hospitals have been selected as depots for the drug, and they now are supplying other hospitals in their respective areas. Heretofore streptomycin was available only in small amounts and this was distributed by the Civilian Production Administration to the Army, the Navy, United States Public Health Service, Veterans Administration and the National Research Council for integrated clinical research.

Producers of streptomycin contributed nearly a million dollars to finance the committee's program.

The drug was discovered by Dr. Selman A. Waksman at the New Jersey Agricultural Experiment Station, Rutgers University, New Brunswick. Waksman and a young assistant, Dr. Albert Schatz, came upon their discovery while working with a soil microbe called Actinomyces griseus. They had found two specimens: one from a piece of highly manured soil on the college farm, the other in a swab taken from the throat of a chicken. This griseus looked like a brilliant performer right from the start. It attacked and killed scores of disease bacteria. Its chemical killing stuff was extracted and named streptomycin. Since that time the drug has been used experimentally in scores of laboratories and clinics throughout the country and now medical science is able to evaluate the results of its use against many diseases.

From time to time, the new drug has been acclaimed as effective against tuberculosis. Touching on this phase of research, the committee's report says:

"When the program of the committee was started on March 1, 1946, it was impossible for us to develop a wide study of tuberculosis. Only the cases that were already under investigation prior to March 1 were continued in order to complete this human experiment. This policy was necessitated by the small supplies of streptomycin available and the magnitude and long-range nature of the problem. It is the hope of the committee that adequate ways and means may be found for studying the application of streptomycin to tuberculosis so that its place in the treatment of this disease can be defined."

One section of the report deals with the experimental studies of streptomycin in tuberculosis which were carried out by H. C. Hinshaw, M.D., Ph.D., Division of Medicine, and W. H. Feldman, D.V.M., M.S., Division of Experimental Surgery and Pathology, Mayo Foundation. Their studies demonstrated that "streptomycin has a powerful effect in inhibiting the growth of tubercle bacilli in experimental tuberculosis of guinea pigs. Many pigs can be saved by treatment and in 30 per cent

the organisms cannot be isolated from the organs of the surviving animals."

Dr. Hinshaw studied seventy-five patients with various forms of tuberculosis over a one and a half year period.

Twenty-four of these patients suffered from pulmonary tuberculosis and all of them were given streptomycin. "In general," the report says, "patients with a grave prognosis were selected for investigation—that is, patients who had not improved on conventional forms of therapy. Patients who had had collapse therapy were excluded from the study.

"Five are listed as failures. Two of these are so regarded because they died, although they showed some improvement by x-ray prior to death and were in the terminal stages of their infection prior to treatment. The other three were regarded as failures since they showed no benefit, although they also got no worse. So far Dr. Hinshaw has not observed pulmonary tuberculosis extending into previously uninvolved areas of lung during streptomycin treatment, in spite of the fact that lesions were extending prior to institution of therapy. He has witnessed recurrence of progression of tuberculosis following the discontinuance of therapy, when beneficial effects had been observed while under treatment. This occurred in four of 19 patients who showed regression of the disease process while under treatment. . . .

"In summing up, Dr. Hinshaw expressed the opinion that, if his work is confirmed, streptomycin is very likely to prove valuable as a palliative remedy in tuberculosis, at least because of its apparent suppressive action. In his experience it did not eradicate infection. Clinically, such a suppressive measure would be of tremendous value as a stopgap measure to be taken prior to or following other forms of treatment, including surgery." In conclusion the report says:

"Tuberculosis of various organs needs to be studied more extensively with streptomycin. A long-range program should be planned and the patients followed for a minimum period of five years. From the experience which has accumulated so far, it appears that a minimum period of three to six months treatment will be required and in some cases it will be necessary to treat patients for a longer time. Since streptomycin has an inhibitive effect on the growth of the tubercle bacillus, and since the exudative lesions do not progress while the patient is under treatment, this agent should be helpful in tuberculosis when it is combined with other established methods of treating this infection."

The committee says that from the evidence accumulated so far, streptomycin is "the best agent



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

America finds a new, easy way to save



OUT OF the war has come a great lesson in thrift—the success of the Payroll Savings Plan.

Under this Plan, during the war, millions of wage earners set aside billions of dollars for War Bonds through "painless" weekly pay deductions.

Under it today, millions more continue to use its easy deductions to buy U. S. Savings Bonds . . . to put away the money for new homes, new cars, new appliances.

SUGGESTION: Why not let this *new, easy way to save* help *you* save too?

Weekly Savings	SAVINGS AND INTEREST ACCUMULATED	
	In 1 Year	In 10 Years
$ 3.75	$195.00	$2,163.45
6.25	325.00	3,607.54
7.50	390.00	4,329.02
9.38	487.76	5,416.97
12.50	650.00	7,217.20
15.00	780.00	8,660.42
18.75	975.00	10,828.74

Savings chart. Plan above shows how even modest weekly savings can grow big. Moral: Join your Payroll Savings Plan next payday.



Out of pay—into nest eggs! A wage earner can choose his own figure, have it deducted regularly from earnings under Payroll Savings Plan.

SAVE THE EASY WAY...
BUY YOUR BONDS THROUGH PAYROLL SAVINGS

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

The Advertising Council

available" for the treatment of tularemia or rabbit fever. This disease is carried by rats, rabbits and twenty other animal species. It strikes 1,000 or more persons, mostly hunters and butchers, in the United States each year. The disease rarely kills over 5 per cent of its victims, but leaves the rest of them debilitated to a point of being bedridden for months.

Streptomycin was tried in sixty-seven cases of tularemia, with sixty-three recoveries. "The results were striking and immediate in fifty-five and gradual but permanent in eight. Nearly every patient was treated with one gram per day for an average of seven days. The majority of cases had been treated previously with sulfonamides and penicillin."

The committee says that "extremely favorable results have been obtained" in the treatment of Hemophilus influenzal meningitis when injections of streptomycin were started early in the course of the disease. Influenzal meningitis has nothing to do with the disease usually called influenza. Rare in adults, influenzal meningitis is not infrequent in children. About 85 per cent of the cases occur in the age period from 2 months to 3 years. Mortality is high.

Streptomycin, the committee adds, should be used in all cases of bacteremia. The drug was used in ninety-one cases. Forty-nine patients recovered and twelve improved. In four there were no appreciable effects, although the patients survived. Twenty-six patients died. "The evidence is good," the report says, "that the streptomycin exerts a favorable effect in clearing the blood of organisms and influencing the local infection."

The investigators found that streptomycin is especially effective in urinary tract infections which plague older persons. It sweeps this type of infection away in a few days. The 409 cases of urinary tract infection were caused by a great variety of bacterial species. The over-all recovery rate was 42 per cent. A high percentage of the cases were chronic infections of from two months to twenty years duration. Of the patients who improved, 19 per cent relapsed after treatment was stopped. Almost all of these infections had been treated previously with sulfonamides and penicillin.

The results in the treatment of typhoid fever, Salmonella infections and brucellosis "have been disappointing in that there is no convincing evidence that the course of the disease in any of these infections is shortened," the committee's report says, adding: "Too few patients with typhoid have been treated to ascertain whether the fatality rate can be reduced, and patients with brucellosis have not been followed long enough to determine whether the relapse rate can be reduced. In any event, no dramatic results have been observed in any of these infections."

The committee also reported on the toxicity of the drug. In the 1,000 cases covered in the survey the over-all incidence of untoward side effects was 20.5 per cent. "It was plain that the incidence of the reactions increased with the total daily dose. When the average daily dose was over one gram there was a striking increase in the number of reactions." The commonest reactions were headache, fever, skin eruptions, flushing of the skin and dizziness.

NEWS NOTES

Dr. Herbert L. Mantz, Kansas City, was reelected governor for the State of Missouri of the American College of Chest Physicians at the annual session of the college held in San Francisco in June.

The next state medical examination of the State Board of Medical Examiners of Missouri will be held on October 28, 29 and 30 at the St. Louis University School of Medicine, St. Louis.

Dr. James R. McVay, Kansas City, addressed the 27th annual Missouri-Kansas-Arkansas district convention of Kiwanis at St. Louis on August 17. His subject was, "Problems of Medical Care: American Medicine Proposes a Solution."

A Tumor Seminar will be held at the Ellis Fischel State Cancer Hospital, Columbia, on October 26, sponsored by the Missouri branch of the American Cancer Society under the auspices of the St. Louis Pathological Society. Dr. Arthur Purdy Stout, Associate Professor of Surgery, Columbia University, and Surgical Pathologist to the Medical Center, New York City, will conduct the seminar which will begin at 10:00 a. m. The day's program will be concluded by a dinner at the Columbia Country Club at 6:30 p. m., at which Dr. Stout will speak on "The Identification of Soft-Tissue Sarcomas." Physicians interested in attending should communicate with Lauren V. Ackerman, M.D., Chairman, Program Committee, St. Louis Pathological Society, The Ellis Fischel State Cancer Hospital, Columbia.

The Kansas City Society of Anesthesiology will have a dinner meeting at 6:00 p. m., October 6, with Dr. John S. Lundy, Rochester, President of the American Society of Anesthesiology, as guest speaker. This dinner will immediately precede the opening of the Kansas City Southwest Clinical Society. Paul H. Lorhan, M.D., University of Kansas Hospitals, Kansas City, Kansas, is in charge of the dinner.

DEATHS

Allee, William S., M.D., St. Louis, a graduate of Washington University School of Medicine, 1938; member of the St. Louis Medical Society, died in the sinking of a prison ship going from the Philippine Islands to Japan in the fall of 1944; aged 32.

Arnold, George Brandt, M.D., Kansas City, a graduate of the University of Kansas School of Medicine, 1927; honor member of the Jackson County Medical Society; aged 52; died June 10.

Spector, Hyman I., M.D., St. Louis, a graduate of the University of Illinois College of Medicine, Chicago, 1922; member of the St. Louis Medical Society; former Tuberculosis Controller for St. Louis City; Chairman of the Association Committee on Industrial Health; aged 52; died July 6.

Kaufman, Julius R., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1931; member of the St. Louis Medical Society; aged 39; died July 14.

Nye, William Rolla, M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1922; member of the St. Louis Medical Society; aged 62; died July 17.

Mulvany, Alva Blake, M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1904; honor member of the Jackson County Medical Society; aged 66; died July 30.

Link, Joseph J., M.D., St. Louis, a graduate of Northwestern University Medical School, 1890; honor member of the St. Louis Medical Society; aged 83; died July 31.

Baron, Michael E., M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1928; member of the St. Louis Medical Society; aged 48; died August 6.

Outt, Charles Nelson, M.D., Joplin, a graduate of the University of Kansas School of Medicine, 1934; member of the Jasper County Medical Society; aged 45; died August 16.

Stephan, Jesse J., M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1896; member of the Jackson County Medical Society; aged 71; died August 22.

Johnson, Edward Horace, M.D., St. Louis, a graduate of Barnes Medical College, St. Louis, 1899; member of the St. Louis Medical Society; aged 70; died August 31.

MISCELLANY

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for October and November, to which all members are invited, beginning at 1:00 p. m. each clinic, follows:

October 2: Miscellaneous.
October 4: Gynecology and genitourinary.
October 9: Skin.
October 11: Breast.
October 16: Gastrointestinal.
October 18: Cervix.
October 23: Skin.
October 25: Head and Neck.
October 30: Bone and lymphomas.
November 1: Gynecology and genitourinary.
November 6: Miscellaneous.
November 8: Breast.
November 13: Skin.
November 15: Cervix.
November 20: Gastrointestinal.
November 22: Head and Neck.
November 27: Skin.
November 29: Bone and lymphomas.



SCIENCE AT THE NATION'S PLAYGROUND — a top scientific medical meeting amid delightful tropical surroundings with every known recreational facility available — Southern Medical Association, Miami, November 4-7. The Southern Medical Association meetings always have been and always will be the ESSENTIAL medical meetings IN and FOR the South. In its twenty-one scientific sections, the four general clinical sessions, the general public session, the four conjoint meetings and the scientific and technical exhibits, in a streamlined program, one will get the last word in modern, practical, scientific medicine and surgery. And after Miami, Havana and/or Nassau.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Miami a scientific program and recreational facilities to challenge his every interest and make it worth-while for him to attend.

ALL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal, a journal valuable to physicians of the South, one that each should have on his reading table.

SOUTHERN MEDICAL ASSOCIATION
Empire Building
BIRMINGHAM 3, ALABAMA

ATTEMPTS BEING MADE TO SECURE NARCOTICS

Forged letters reported to have been received from the Ellis Fischel State Cancer Hospital have been used in the state recently in attempts by individuals to procure narcotics. Information from the hospital states that any requests of this nature are always on the letterhead of the institution and are signed by one of the senior staff men. Such letters are sent directly by mail to the patient's family physician and never entrusted to anyone else. They are directed to the individual physician and not "To Whom It May Concern" as the forged letters are addressed. If a physician questions any such letter the hospital will accept a reverse charge call to the staff member who is supposed to have signed the letter.

SOCIETY PROCEEDINGS

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR

Phelps-Crawford, Dent and Pulaski County Medical Societies

The Phelps-Crawford, Dent and Pulaski County Medical Societies met at the Waynesville General Hospital for a dinner meeting on July 23. The meeting was called under the auspices of the temporary organization of the societies, with Dr. George E. Joseph, Salem, president, and Dr. R. E. Breuer, Newburg, secretary. Twenty-six physicians were in attendance.

Dr. Newell W. Schlueter, St. Louis, spoke on "Contact Dermatitis."

Dr. B. L. Sinner, St. Louis, discussed "Intestinal Obstruction."

The name of the hyphenated society was decided upon as the Phelps-Crawford-Dent-Pulaski County Medical Society.

The time of meeting was named as the last Friday in each month.

The following officers were elected to serve until January 1, 1947: President, Dr. George E. Joseph, Salem; vice president, Dr. Cyrus Mallette, Crocker; secretary-treasurer, Dr. R. E. Breuer, Newburg; censors, Drs. A. H. Horne, Steelville; A. A. Drake, Rolla; William R. Lytle, Waynesville.

Rolla was chosen as the place of meeting for August.

The speakers of the evening were thanked for their presentations and the personnel of the Waynesville General Hospital for their hospitality.

The following were introduced: Drs. R. M. James, State Health Commissioner; John Williams, Jr., of the Division of Health; Leslie Randall, Licking; Seth S. Barnes, Health Commissioner of Pulaski County; A. F. Knowles, Health Commissioner of Phelps County; E. C. Bohrer, West Plains, Councilor of the Ninth District.

R. E. Breuer, M.D., Secretary.

South Central Counties Medical Society

The South Central Counties Medical Society met at the Elliott Hotel, Mountain Grove, at 7:00 p. m., August 16, for a dinner meeting. The following members and guests were present: Drs. J. R. Mott, Hartville; J. A. Fuson, Mansfield; R. M. Norman, Ava; A. C. Ames, Mountain Grove; C. T. Callihan, Willow Springs; E. C. Bohrer and Rollin H. Smith, West Plains; D. L. Yancey and Robert Duncan, Springfield.

Dr. Duncan spoke on "The Diagnosis and Treatment of Head Injuries" giving practical suggestions.

Dr. Yancey discussed "Internal Fixation of Fractures of the Neck of the Femur" illustrating with roentgen ray films.

A vote of thanks and appreciation was given the speakers and the meeting adjourned to meet at Cabool on September 20.

A. C. Ames, M.D., Secretary.

BOOK REVIEW

The Care of the Neurosurgical Patient, Before, During and After Operation. By Ernest Sachs, A.B., M.D., Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis. With 177 Illustrations including two in color. St. Louis: C. V. Mosby Company. 1945. Price $6.00.

This book, dedicated to the Fellows in Neurological Surgery who have been trained by Dr. Sachs, is an excellent collection of data that Dr. Sachs, in his thirty-five years of neurosurgical experience, has found to be most important and yet least likely to be stressed in the training of young men in this field. He emphasizes all the meticulous details in examination, preoperative care, surgical technic and postoperative care which are necessary in the care of neurosurgical patients. Physical equipment, operating room, instruments, anesthesia and neurosurgical methods are covered thoroughly. Each type of neurosurgical operation is discussed briefly, emphasis always being placed on finer details of technic, prevention of complications and minor points which often are overlooked that may result in major difficulties. Every detail in postoperative care is adequately covered.

The book is generously filled with illustrations representing nursing care, equipment and operative technic. Case histories of representative patients are included. The text is entertainingly written, often humorous and never dull. It is the voice of experience telling the young neurosurgeon how to keep out of trouble.

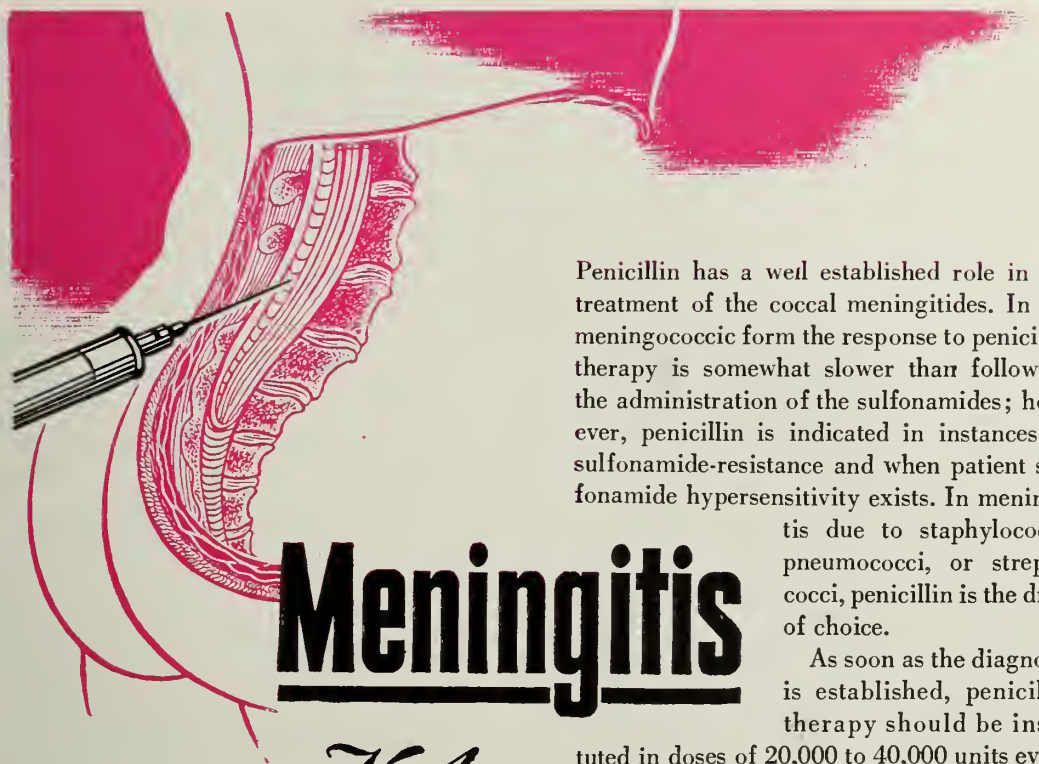
Some of Dr. Sachs' methods and his conception of treatment of malignant lesions naturally differ from other neurosurgical clinics but he is most fair in presenting the other person's opinion as well as his own. He believes in dealing radically with certain lesions that other neurosurgeons would not operate upon, and feels that the opportunity for advancement in neurosurgery lies in that attitude. Every man in training for neurosurgery should read this book, and the experienced neurosurgeon can, no doubt, draw many helpful hints from it. W. P. W.

The Extremities. By Daniel P. Quiring, Ph.D., Head of the Anatomy Division, Cleveland Clinic Foundation and Associate Professor of Biology, Western Reserve University; and Beatrice A. Boyle, Artist Cleveland Clinic Foundation; Erna L. Boroush, M.A., Fellow Anatomy Division, Cleveland Clinic Foundation; and Bernadine Lufkin, A.B., Former Secretary Research Division, Cleveland Clinic Foundation. Illustrated with 106 engravings. Philadelphia: Lea & Febiger. 1945. Price $2.75.

This short book of 117 pages is a diagramatic presentation of the origin, insertion, action, arterial and nerve supply of the muscles of the upper and lower extremities, together with their motor points. It is a volume designed primarily for the student and for the physiotherapist. The diagrams are accurate insofar as diagrams can be and well drawn.

The legends are concise and will clear up much of the confusion that the student encounters from more wordy descriptions in standard anatomies. The only criticism is that the indicated motor points for each muscle group are much lower in the body of the muscle than the entrance of the nerve supply to that muscle.

The book is to be recommended as an adjunct for the student of anatomy, as a useful tool for physiotherapists and for reference for surgeons interested in problems of muscle balance. G. P.



Meningitis

No. 4

IN SCHENLEY LABORATORIES CONTINUING SUMMARY OF PENICILLIN THERAPY....

Penicillin has a well established role in the treatment of the coccal meningitides. In the meningococcic form the response to penicillin therapy is somewhat slower than following the administration of the sulfonamides; however, penicillin is indicated in instances of sulfonamide-resistance and when patient sulfonamide hypersensitivity exists. In meningitis due to staphylococci, pneumococci, or streptococci, penicillin is the drug of choice.

As soon as the diagnosis is established, penicillin therapy should be instituted in doses of 20,000 to 40,000 units every two to three hours by the intramuscular route. Treatment should be thorough, and should be continued until all signs and symptoms of the infection have been absent for seven to ten days. Since penicillin administered systemically does not penetrate the subarachnoid space, intrathecal (intraspinal, intracisternal, intraventricular) administration is also required. Ten thousand units in 10 cc. of isotonic solution of sodium chloride should be injected (after withdrawal of an equal volume of fluid) once or twice daily until the spinal fluid is clear, and for four days thereafter.

When concurrent sulfonamides are indicated, they should be administered in a dosage sufficient to establish a blood level of 15 mg. per cent.

Surgical, supportive, and other measures should be employed when indicated.

BEFORE YOU DECIDE ON THE PENICILLIN OF YOUR CHOICE

For many years, Schenley has been among the world's largest users of research on mycology and fermentation processes. In addition, Schenley Laboratories manufactures a complete line of superior penicillin products — products thoroughly tested for potency and quality. These two important facts mean you may give your patients the full benefits of complete penicillin therapy.

PENICILLIN SCHENLEY

a product of

SCHENLEY LABORATORIES, INC. Executive Offices: 350 Fifth Avenue, New York City

SPINK, W. W., and HALL, W. H.: *Penicillin Therapy at the University of Minnesota Hospitals: 1942-1944, Ann. Int. Med. 22:510 (April) 1945.*

WHITE, W. L.; MURPHY, F. D.; LOCKWOOD, J. S., and FLIPPIN, H. F.: *Penicillin in the Treatment of Pneumococcal, Meningococcal, Streptococcal, and Staphylococcal Meningitis, Am. J. Med. Sc. 210:1 (July) 1945.*

THE TABLET METHOD FOR DETECTING URINE-SUGAR

CLINITEST

offers these advantages to physician, laboratory technician, patient:

ELIMINATES

Use of flame
Bulky apparatus
Measuring of reagents

PROVIDES

Simplicity
Speed
Convenience of technic







Simply drop one Clinitest Tablet into test tube containing proper amount of diluted urine. Allow time for reaction, compare with color scale.

FOR OFFICE USE

Clinitest Laboratory Outfit (No. 2108) Includes—Tablets for 180 tests, test tubes, rack, droppers, color scale, instructions. Additional tablets can be purchased as required.

FOR PATIENT USE

Clinitest Plastic Pocket-Size Set (No. 2106) Includes—All essentials for testing—in a small, durable, pocket-size case of Tenite plastic.



Order from your dealer.

Complete information upon request.

AMES COMPANY, Inc.

ELKHART, INDIANA

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Techniques starting October 21 and November 18.

Four Weeks Course in General Surgery starting October 7 and November 4.

One Week Course in Surgery of Colon and Rectum starting October 14 and November 25.

One Week Course in Thoracic Surgery starting October 21 and November 25.

GYNECOLOGY—Two Weeks Course starting October 21.

One Week Personal Course in Vaginal Approach to Pelvic Surgery starting November 25.

MEDICINE—Two Weeks Intensive Course starting October 21.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

e aching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

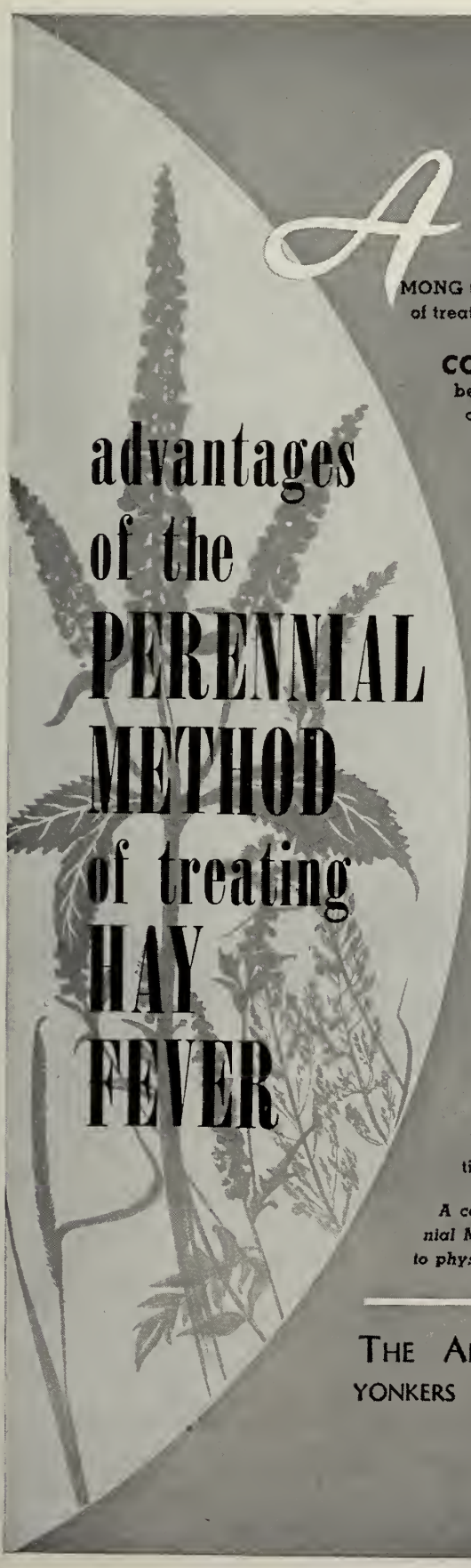
Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association



advantages of the PERENNIAL METHOD of treating HAY FEVER

AMONG the advantages of the perennial method of treating hay fever are:

CONVENIENCE. Perennial treatment may be started at any time during the year and it is often more convenient for the patient to come to the physician's office at less frequent intervals than is necessary during preseasonal and coseasonal treatment.

EFFECTIVENESS. Greater probability of permanent immunity with this method than with either the preseasonal or coseasonal method.

SIMPLICITY. The perennial method is the one of choice where symptoms of hay fever continue through more than one season. In treating such cases, pollens of all seasons during which the patient is affected may be combined without loss of effectiveness.

CONTROL. This method also enables the physician to keep a much closer check on the patient's general physical condition throughout the entire year.

Physicians may order a complete diagnostic pollen set for testing any individual patient for $1.00 irrespective of the number of pollen allergens it is necessary to include. In ordering these sets, dates of onset and termination of attack are required.

The staff of the Biological Division will be most happy to extend their cooperation and suggestions on any of your allergy problems.

A copy of the treatise, "Advantages of the Perennial Method of Treating Hay Fever", will be sent to physicians upon request.

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1 NEW YORK

Arlington



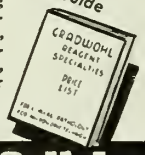
GRADWOHL
REAGENT SPECIALTIES

A complete line for clinical laboratories devoted to all branches of chemistry, bacteriology, hematology, and parasitology. Tested and checked in our own clinical laboratories. Purity warranted. Our facilities assure prompt shipment of large or small orders. Inquiries invited.

COMPLETE CATALOG

Reagents catalogued alphabetically—also according to subjects and techniques, plus medical reference guide. Catalog comprises full line blood testing sera including anti-Rh, anti-M and anti-N; also reagents for Wassermann, Kline, and Kahn tests. Write for your copy. FREE ON REQUEST.

and Medical Reference Guide



GRADWOHL
LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.

HANGER
INVENTORS and MANUFACTURERS
of



ENGLISH WILLOW and DURAL LIGHT METAL LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.
1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088

MENOPAUSAL THERAPY *with*

Schieffelin BENZESTROL
(2, 4-di (p-hydroxyphenyl)-3-ethyl hexone)

BENEZSTROL was developed in the Research Laboratories of Schieffelin & Co. This synthetic estrogen offers the means of alleviating distressing menopausal symptoms effectively, conveniently and economically, and with a definitely lower incidence of untoward side effects.

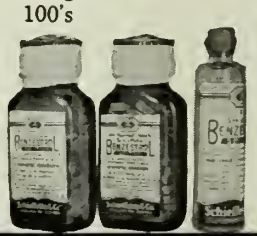
Schieffelin BENZESTROL is available in three forms; Tablets for oral administration, Vaginal Tablets for local use, and multiple dose Vials for intramuscular injection.

ORAL
Schieffelin BENZESTROL Tablets
0.5, 1.0, 2.0 and 5.0 mg. 50's-100's-1000's

PARENTERAL
Schieffelin BENZESTROL Solution
5.0 mg. per cc. 10 cc. vials

LOCAL
Schieffelin BENZESTROL Vaginal Tablets
0.5 mg. 100's

ACCEPTED AMERICAN MEDICAL ASSN



Literature and Sample on Request

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 Cooper Square New York 3, N. Y.

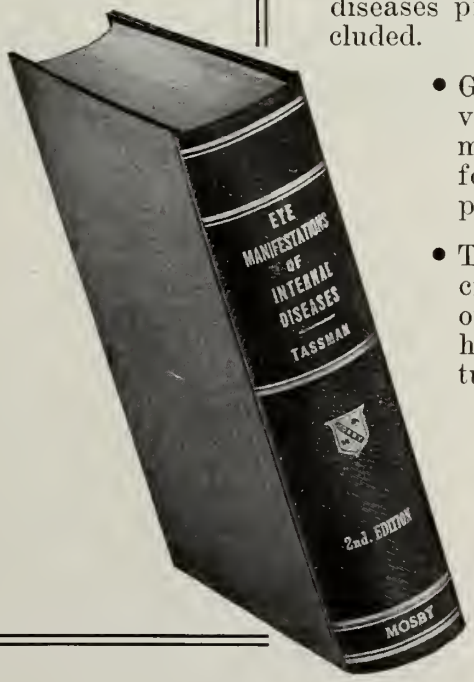
New Second Edition

Tassman's

The EYE MANIFESTATIONS of INTERNAL DISEASES

by I. S. TASSMAN, M.D., Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

611 pages, 243 illustrations, including 24 in color. Price, $10.00



Just Released!

For this Second Edition the author has retained his systematic arrangement of material and simple style. However, many important additions and changes have been made in order to bring the book up to date and improve its value as a reference.

- A number of diseases have been added to the discussion, including: Ocular Allergy, Epidemic Keratoconjunctivitis, Hurler's Disease, Osteopetrosis, Lymphogranuloma Venereum, Bowen's Disease of the Cornea, Toxoplasmic Encephalomyelitis, and Purtscher's Disease.
- Many new references and additions to diseases previously discussed are included.
- Greater space has been devoted to treatment, and the most recent methods and forms presented wherever possible.
- The text matter has been increased by 13 per cent and over forty new illustrations have been added or substituted.

Order Now!

The C. V. Mosby Company
3207 Washington Blvd.
St. Louis 3, Missouri

MJ 10/46

Gentlemen: Send me a copy of the new Second Edition Tassman's

EYE MANIFESTATIONS OF INTERNAL DISEASES

...Attached is my check for $10.00. ...Charge my account.

Name .....

Address .....

A NAME TO REMEMBER



Dorsey

IT'S no trouble to remember the name of a friend . . . the street where you live . . . a favorite restaurant, clothier, druggist. These names are important; YOU DEPEND UPON THEM.

In professional life, also, a man remembers the names which play an important role: interesting patients, colleagues of consequence, medications you rely upon day after day—AND THE NAMES OF THEIR MANUFACTURERS.

Dorsey is one of the names you can count upon—a name to remember. For Dorsey (until recently Smith-Dorsey) has been making reliable pharmaceuticals for the medical profession since 1908. Dorsey products are backed by the Dorsey laboratories—fully equipped, capably staffed, following rigidly standardized testing procedures throughout.

Dorsey is a name you can depend upon . . .

THE SMITH-DORSEY COMPANY
LINCOLN, NEBRASKA
DALLAS, TEXAS LOS ANGELES, CALIF.

ACCEPTED AMERICAN MEDICAL ASS'N

MANUFACTURERS OF
PURIFIED SOLUTION OF LIVER-DORSEY
SOLUTION OF ESTROGENIC SUBSTANCES-DORSEY

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.



North Shore Health Resort

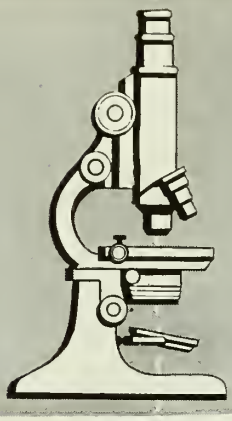
Winnetka, Illinois

on the Shores of Lake Michigan

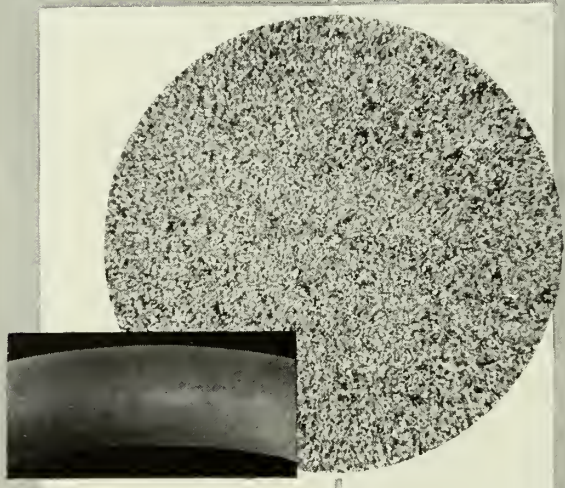
A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

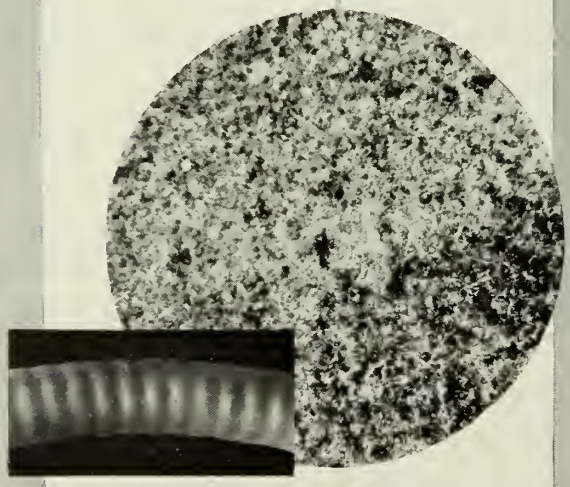
225 Sheridan Road — *Medical Director* — Phone Winnetka 211



Through the MICROSCOPE



No. 1 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a "RAMSES" Flexible Cushioned Diaphragm.



No. 2 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a conventional-type diaphragm.

quality first since 1883

The discerning eye of the microscope reveals notable advantages of the "RAMSES"* Flexible Cushioned Diaphragm.

Only the "RAMSES" has the patented rim construction which provides both a wide, unindented area of contact with the vaginal walls, and a cushion of soft rubber to buffer spring pressure.

The pure gum rubber used in the dome is prepared by an exclusive process which imparts lightness, strength, velvet smoothness, and long life.

Ramses REG. U.S. PAT. OFF.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

FLEXIBLE CUSHIONED DIAPHRAGM

Manufactured in gradations of 5 millimeters in sizes ranging from 50 to 95 millimeters, inclusive. Available through all recognized pharmacies.

TRADE MARK OF Ramses DEPENDABILITY

gynecological division

JULIUS SCHMID, INC.

423 West 55th St., New York 19, N. Y.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Malpractice Counselors

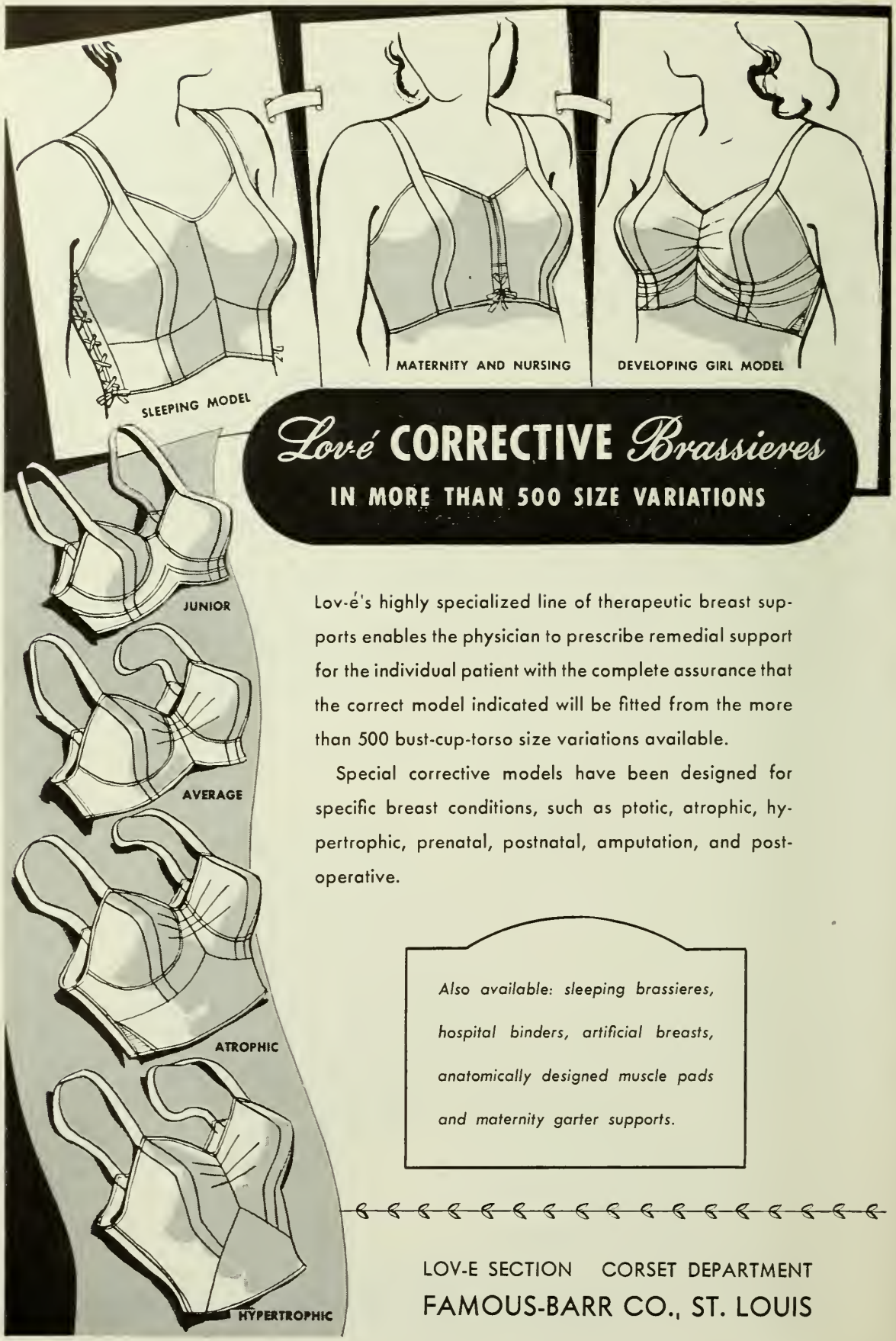
The field representatives, who serve our policy holders exclusively, know your protective needs.

Special training by our Law Department makes them efficient counselors on malpractice problems.

Through ability, training and experience they are specialists in their own right.

Professional Protection
Exclusively
Since 1899

THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA



Lov-é CORRECTIVE Brassieres

IN MORE THAN 500 SIZE VARIATIONS

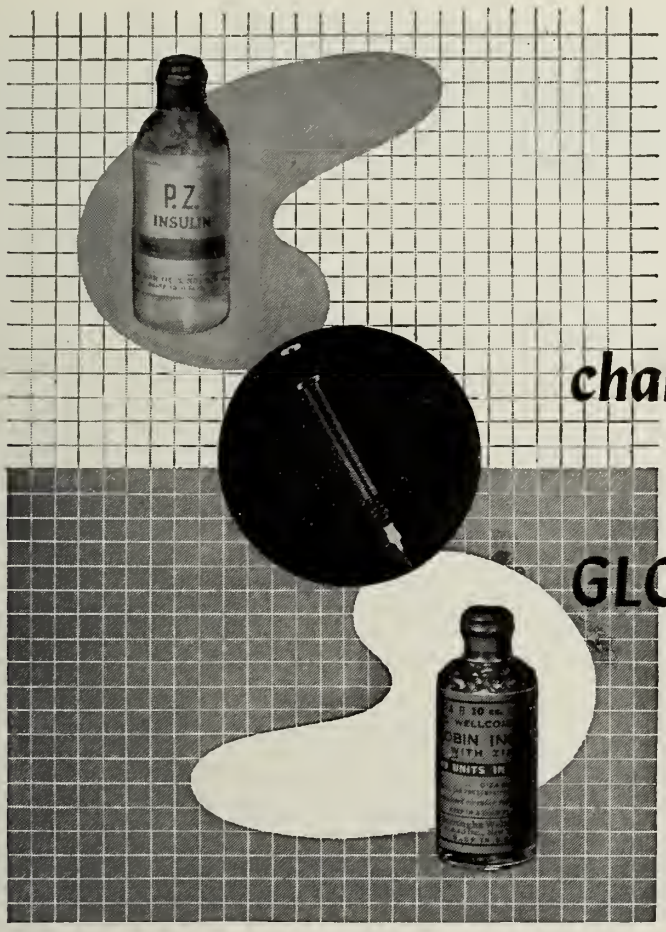
Lov-é's highly specialized line of therapeutic breast supports enables the physician to prescribe remedial support for the individual patient with the complete assurance that the correct model indicated will be fitted from the more than 500 bust-cup-torso size variations available.

Special corrective models have been designed for specific breast conditions, such as ptotic, atrophic, hypertrophic, prenatal, postnatal, amputation, and postoperative.

Also available: sleeping brassieres, hospital binders, artificial breasts, anatomically designed muscle pads and maternity garter supports.

LOV-E SECTION CORSET DEPARTMENT

FAMOUS-BARR CO., ST. LOUIS



changing from PZI to GLOBIN INSULIN

When protamine zinc insulin treatment is complicated by post-prandial hyperglycemia, nocturnal insulin reaction, protamine sensitivity, or other difficulties, a change to Globin Insulin often results in the desired improvement. The change is achieved in three steps:

1. THE INITIAL CHANGE-OVER DOSAGE: The first day, 30 minutes or more before breakfast, give a single dose of Globin Insulin, equal to ½ the total previous daily dose of protamine zinc insulin or of protamine zinc insulin combined with regular insulin. The next day, dose may be increased to ⅔ former total.

2. ADJUSTMENT TO 24-HOUR CONTROL: Gradually adjust the Globin Insulin dosage to provide 24-hour control as evidenced by a fasting blood sugar level of less than 150 mgm. or sugar-free urine in the fasting sample.

3. ADJUSTMENT OF DIET: Simultaneously adjust carbohydrate distribution of diet to balance insulin activity; initially 2/10, 4/10 and 4/10. Any midafternoon hypoglycemia may usually be offset by 10 to 20 grams carbohydrate at 3 to 4 p.m. Base final carbohydrate adjustment on fractional urinalyses.

Most mild and many moderately severe cases may be controlled by *one daily injection of 'Wellcome' Globin Insulin with Zinc.* Vials of 10 cc.; 40 and 80 units per cc. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Pat. 2,161,198. Literature on request.

'Wellcome' Trademark Registered

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

ZEMMER pharmaceuticals

A complete line of labaratory controlled ethical phormaceuticals.
Chemists to the Medicol Profession for 44 yeors.
THE ZEMMER COMPANY • Oakland Station • PITTSBURGH 13, PA.

Mo 10-46

HAMILTON-SCHMIDT SURGICAL CO.

St. Louis, Missouri

Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE

CEntral 1680 — 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES

Est. 1919

QUINCY X-RAY & RADIUM LABORATORIES

(owned and directed by a Physician-Radiologist)

W. C. U. Bldg. — HAROLD SWANBERG, B.S., M.D., DIRECTOR — Quincy, Illinois

FREE SAMPLE

DR. .....
ADDRESS .....
CITY .....
STATE .....

AR-EX SOAP

Superfatted with CHOLESTEROL

Contains No Lanolin

Prescribed by many dermatologists and allergists in sensitive, dry skin, and contact dermatitis. YOUR DRUGGIST HAS IT OR CAN GET IT FOR YOU.



AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

James A. Wallace, M.D., *Medical Director* — S. N. Brinson, M.D., *Medical Director* — Charles W. Miller, Jr., M.D., *Psychiatrist* — Walter R. Wallace, *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.

"A benzedrine inhaler is probably the least irritating of any method for shrinking the nasal mucosa..."

Shambaugh, G. E., Jr.: J. Iowa M. Soc, 31:373.

Wide margin of safety Benzedrine Inhaler, N. N. R., is strikingly effective in reducing the congestion accompanying head colds, allergic rhinitis and sinusitis, but it does not give rise to any significant degree of secondary turgescence, atony, or bogginess, when used as directed.

Each Benzedrine Inhaler is packed with racemic amphetamine, S. K. F., 250 mg.; menthol, 12.5 mg.; and aromatics.



Benzedrine Inhaler
a better means of nasal medication

ACCEPTED AMERICAN MEDICAL ASSN.

Smith, Kline & French Laboratories, Philadelphia, Pa.



"FOR ME ALWAYS"

Because DARICRAFT

1. is EASILY DIGESTED
2. has 400 U.S.P. Units of VITAMIN D per pint of evaporated milk.
3. has HIGH FOOD VALUE
4. has an IMPROVED FLAVOR
5. is HOMOGENIZED
6. is STERILIZED
7. is from INSPECTED HERDS
8. is SPECIALLY PROCESSED
9. is UNIFORM
10. will WHIP QUICKLY

PRESCRIBED BY MANY DOCTORS ... You also may want to utilize Daricraft as a solution to your infant feeding problems, as well as in special diets for convalescents.

PRODUCERS CREAMERY CO., SPRINGFIELD, MISSOURI



Over 37 Years ...
Builders and Fitters of Artificial Limbs and Orthopaedic Appliances

Isle Built Appliances restore the highest possible degree of efficiency to patients who have suffered amputation or other physical impairment.
Your instructions followed implicitly.
Qualified, courteous personnel.
ENTIRE SECOND FLOOR PHONE VICTOR 2350

THE W. E. ISLE COMPANY
1121 GRAND AVE. KANSAS CITY, MO.

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

Freidman Pregnancy Test

requires only 48 hours. Write for mailing tube and vial.

Established 1938 *Price $5.00*

Pregnancy Diagnostic Laboratories
DYSART, IOWA

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

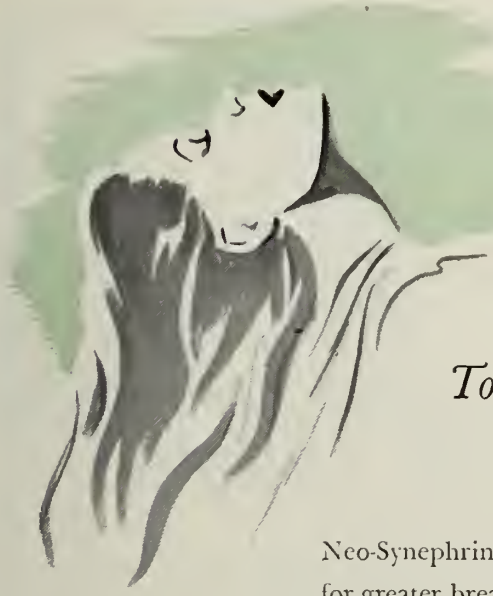
MENTAL patients have every comfort that their home affords.

The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only



To restore nasal patency in colds and sinusitis . . .

Neo-Synephrine decongests promptly . . . clears the nasal airways for greater breathing comfort . . . promotes sinus drainage. Relief lasts for several hours. Virtual freedom from compensatory vasodilatation precludes development of dependency symptoms.

Neo-Synephrine

BRAND OF PHENYLEPHRINE HYDROCHLORIDE

For Nasal Decongestion

THERAPEUTIC APPRAISAL: Prompt, prolonged nasal decongestion without appreciable compensatory recongestion; virtual freedom from local and systemic side effects; sustained effectiveness on repeated use.

INDICATED for symptomatic relief of the nasal congestion of common colds, sinusitis and allergic rhinitis.



ADMINISTRATION may be by dropper, spray or tampon, using the ¼% in most cases, the 1% when a stronger solution is indicated.

SUPPLIED as ¼% and 1% in isotonic saline and ¼% in Ringer's with aromatics, bottles of 1 fl. oz.; ½% jelly in convenient applicator tubes, ⅝ oz.

Frederick Stearns & Company
Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Neo-Synephrine* Reg. U. S. Pat. Off.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5159 Delmar, St. Louis Forest 1913

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

THE MARY E. POGUE SCHOOL

For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

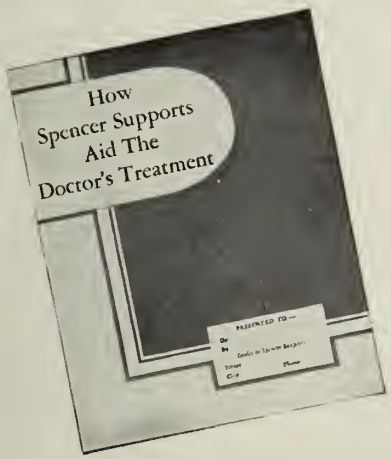
Drug Addictions Treated by Special System of Reduction— Individuolized to Patient's Needs

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Registered by the Council on Medicol Education and Hospitols of the A. M. A.



New Book For Doctors

For Your Copy Send Coupon Below



SUBJECTS

Nephroptosis or Visceroptosis with Symptoms

Antepartum-Postpartum

Postoperative (Spinal, Abdominal, Breasts)

Spondylarthritis
Spondylolisthesis
Osteoporosis
Fractured Vertebrae
Disc Protrusion
Lumbosacral or Sacroiliac Disturbances

Body Mechanics
Lordosis—Kyphosis—Scoliosis

Breast Conditions
Obesity
Hernia (Inoperable)

In this new book we have endeavored to save the doctor time by confining text to pertinent facts.

The book is profusely illustrated—over sixty illustrations—picturing supports *individually designed* as an aid to the doctor's treatment. Subjects are clearly defined to make the book a ready reference record.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop" or write direct to us.

MAY WE SEND YOU BOOKLET?

SPENCER, INCORPORATED

129 Derby Ave., New Haven 7, Conn.

In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxan.

Please send me booklet, "How Spencer Supports Aid The Doctor's Treatment."

Name ..... M.D.

Street .....

City & State V-10-46

SPENCER *INDIVIDUALLY DESIGNED* SUPPORTS

Reg. U.S. Pat. Off.

For Abdomen, Back and Breasts

COMMERCIAL ANNOUNCEMENT

WINTHROP INCREASES PRODUCTION OF SYNTHETIC AMINO ACIDS

Increased production of synthetic amino acids is made possible by new methods of preparation developed in the laboratories of the Winthrop Chemical Company, Inc. Winthrop pioneered in the use of the readily prepared ethyl acetamidocyanoacetate for the synthesis of a wide variety of amino acids and, as explained by Noel F. Albertson of the laboratory staff in the *Journal of American Chemical Society*, only two steps are required in production when this intermediate is reacted with an alhyl halide and the resulting product hydolyzed. The new method is useful for the preparation not only of such naturally occurring amino acids as alanine and leucine, but also of many amino acids not known to occur in nature, Albertson states in his article.

SCHERING HANDY LITERATURE FILE PRESENTED TO PHYSICIANS

A sturdy cloth-bound literature filing box is being presented to all physicians by Schering Corporation of Bloomfield and Union, New Jersey, manufacturers of important endocrine and pharmaceutical preparations for the medical profession. Through direct mail, the physician receives many scientific folders designed to keep him well informed on the latest developments in endocrinology and other pharmaceutical fields. Many physicians have desired a file box to preserve this valuable literature for ready reference. Designed to simulate a technical reference text and bound in red-purple cloth and stamped in gold, the handy file boxes are presented free of charge as another Schering service to the practitioner.

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death	**$ 8.00**
$25.00 weekly indemnity, accident and sickness	quarterly
$10,000.00 accidental death	**$16.00**
$50.00 weekly indemnity, accident and sickness	quarterly
$15,000.00 accidental death	**$24.00**
$75.00 weekly indemnity, accident and sickness	quarterly
$20,000.00 accidental death	**$32.00**
$100.00 weekly indemnity, accident and sickness	quarterly

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,900,000.00	$13,500,000.00

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

MISCELLANEOUS ANNOUNCEMENTS

FOR SALE: Entire office equipment and case records of St. Louis Otolaryngologist. Address Box 151, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

INDEX TO ADVERTISERS

Abbott Laboratories 664
Ames Company 714
Ar-Ex Cosmetics, Inc. 724
Arlington Chemical 715
Ayerst, McKenna & Harrison 694

Bilhuber-Knoll Corporation 702
Borden Company 688
Burroughs Wellcome & Co. 674, 723

Camel Cigarettes 675
Camp, S. H. & Co. 697
Campbell Soup Co. 691
Ciba Pharmaceutical Products, Inc. 673
Ciba Pharmaceutical Products, Inc. ..... Insert
Cook County Graduate School of Medicine 714

Faith Hospital 728

Glenwood Sanatorium 708
Gradwohl School of Laboratory Technique 716

Hamilton-Schmidt Surgical Co. 724
Hanger, J. E., Inc. 716

Isle, W. E., Co. 726

Lilly, Eli and Co. 676
Lilly, Eli and Co. ..... Insert
Lov-e Brassiere Co. 722

M & R Dietetic Laboratories, Inc. 731
Major Clinic Association 665
Mead Johnson & Co. 732
Medical Protective Co. 721
Milwaukee Sanitarium 692
Miscellaneous Announcements 730
Mosby, C. V. Co. 717
Mullen Ambulance Co. 728

National Pathological Laboratory 714
Norbury Sanatorium 719
North Shore Health Resort 719

Parke, Davis & Co. 662, 663
Philip Morris & Co. 667
Physicians Casualty Association 730
Pogue, Mary E., School 728
Pregnancy Diagnostic Laboratories 726
Producers Creamery Co. 726

Quincy X-ray and Radium Laboratories 724

Ralph Sanitarium 728
Robinson Clinic 726

Schenley Laboratories 713
Schering Corporation 701
Schieffelin & Co. 716
Schmid, Julius, Inc. 720
Searle, G. D. & Co. 687
Smith-Dorsey Co. 718
Smith, Kline & French Laboratories 725
Southern Medical Association 711
Spencer Inc. 729
Squibb, E. R. & Sons 669
Stearns, Frederick & Company 727
Stokes Sanitarium 726

Upjohn Co. 670
U. S. Brewers Foundation 706
U. S. Savings Bonds 709
U. S. Standard Products 671

Wallace Sanitarium 724
Winthrop Chemical Co. 672
Worrell, Dorothy 726

Zemmer Company 724

Dependable Nourishment

DURING THAT *all-important* FIRST YEAR OF LIFE





The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant —*from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

Boston Medical Library
8 Fenway

Old Way . . .

CURING RICKETS in the CLEFT of an ASH TREE

FOR many centuries,—and apparently down to the present time, even in this country—ricketic children have been passed through a cleft ash tree to cure them of their rickets, and thenceforth a sympathetic relationship was supposed to exist between them and the tree.

Frazer* states that the ordinary mode of effecting the cure is to split a young ash sapling longitudinally for a few feet and pass the child, naked, either three times or three times three through the fissure at sunrise. In the West of England, it is said the passage must be "against the sun." As soon as the ceremony is performed, the tree is bound tightly up and the fissure plastered over with mud or clay. The belief is that just as the cleft in the tree will be healed, so the child's body will be healed, but that if the rift in the tree remains open, the deformity in the child will remain, too, and if the tree were to die, the death of the child would surely follow.

*Frazer, J. G.: The Golden Bough, vol. 1, New York. Macmillan & Co., 1923



It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

New Way . . .

Preventing and Curing Rickets *with* MEAD'S OLEUM PERCOMORPHUM

NOWADAYS, the physician has at his command, Mead's Oleum Percomorphum, a Council-Accepted vitamin D product which actually prevents and cures rickets, when given in proper dosage.

Like other specifics for other diseases, larger dosage may be required for extreme cases. It is safe to say that when used in the indicated dosage, Mead's Oleum Percomorphum is a specific in almost all cases of rickets, regardless of degree and duration.

Mead's Oleum Percomorphum because of its high vitamins A and D content is also useful in deficiency conditions such as tetany, osteomalacia and xerophthalmia.

COUNCIL-ACCEPTED: Oleum Percomorphum With Other Fish-Liver Oils and Viosterol. Contains 60,000 vitamin A units and 8,500 vitamin D units per gram and is supplied in 10 c.c. and 50 c.c. bottles; and in bottles containing 50 and 250 capsules.

MEAD JOHNSON & COMPANY, EVANSVILLE, INDIANA, U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 11

NOVEMBER, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

ORIGINAL ARTICLES

Experiences in Blood Banking in Europe and Their Application to Civilian Practice
The Clinical Significance of the RH Factor
Recent Observations on Anemia in Scurvy
Auditory Impairment in Returned Service Personnel
Safety of Mercurial Diuretics

BOSTON
NOV 1946
MEDICAL LIBRARY

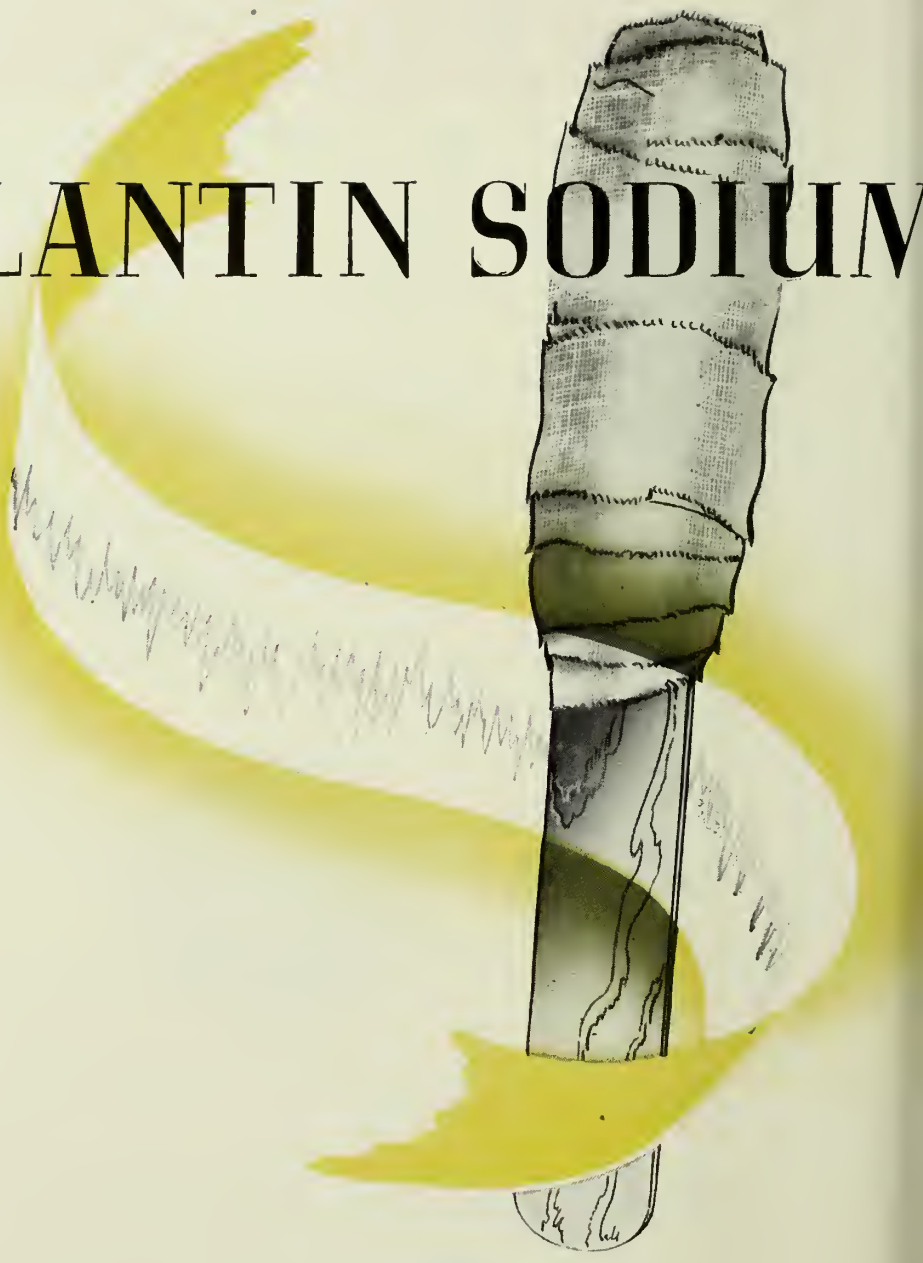
EDITORIALS

Veterans Oppose Socialized Medicine
Contributions
Heart Disease

(Contents Index Page 737)

SYMBOLS OF SIGNIFICANCE

DILANTIN SODIUM



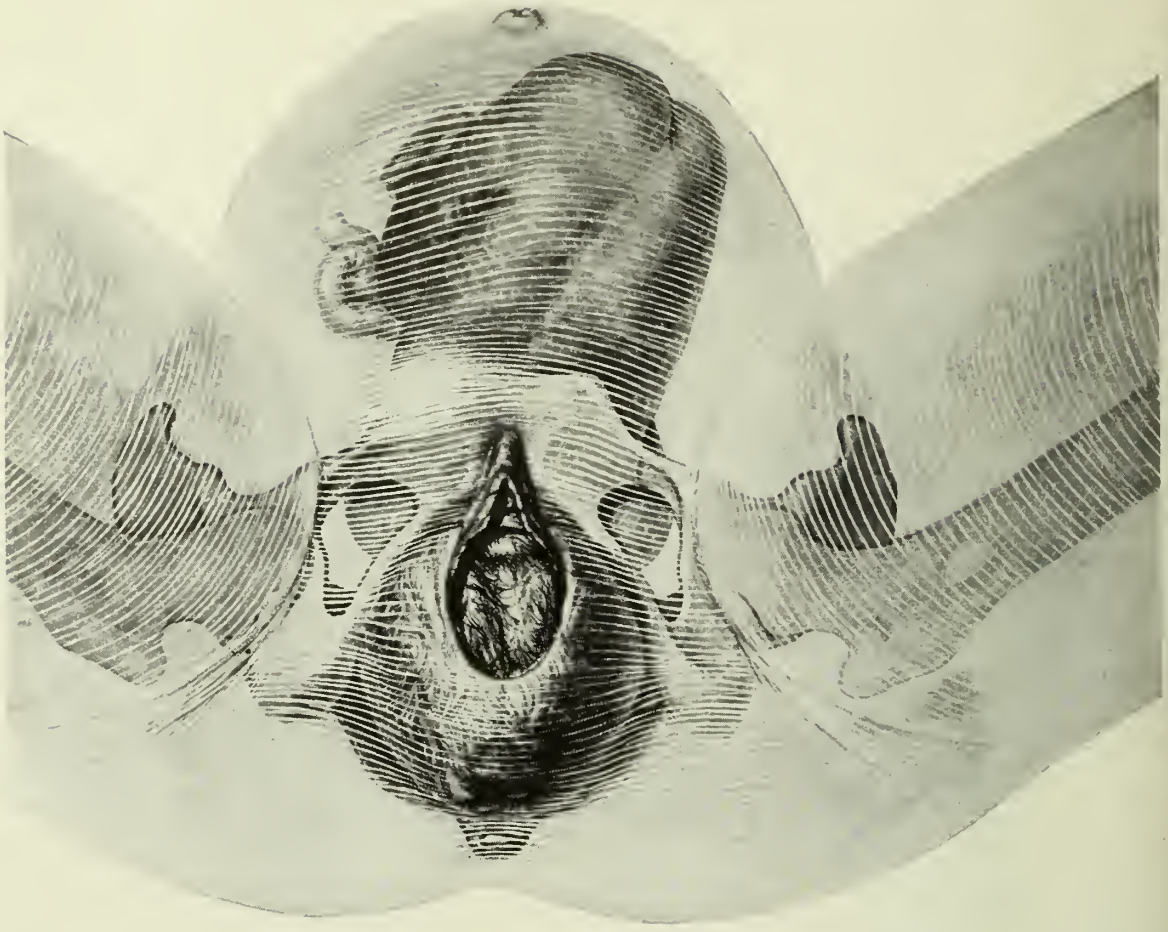
The cry, the fall, the champing teeth, the tonic and clonic contractures, the incontinence—all may yield to DILANTIN SODIUM. The E.E.G. can trace the pathologic brain wave, yet the epileptic may be spared his terrifying episodes. Powerfully anti-convulsant rather than dullingly hypnotic, DILANTIN SODIUM KAPSEALS* offer to the epileptic a sense of security and an opportunity to lead a more normal and useful life. DILANTIN SODIUM KAPSEALS—another product of revolutionary importance in the treatment of a specific disease; another of a long line of Parke-Davis preparations whose service to the profession created a dependable symbol of significance in medical therapeutics—MEDICAMENTA VERA.

DILANTIN SODIUM KAPSEALS (diphenylhydantoin sodium), containing 0.03 Gm. (½ grain) and 0.1 Gm. (1½ grains), are supplied in bottles of 100, 500 and 1000. Individual dosage is determined by the severity of the condition.

*Trademark Reg. U. S. Pat. Off.

MEDICAMENTA VERA · P & CO.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN



Smooth Labor

Demerol, the potent, synthetic analgesic, spasmolytic and sedative, relieves labor pains promptly and effectively without danger to mother and child. There is no weakening of uterine contractions, lengthening of labor, or postpartum complication due to the drug. Bad effects on the newborn are practically nil: no respiratory depression or asphyxia from too much analgesia of the mother. Simplicity of administration is another commendable feature.

Available for injection (50 mg. per cc.) in ampuls (2 cc.) and vials (30 cc.) and for oral administration in tablets (50 mg.).

Write for detailed literature. Narcotic blank required.

Demerol hydrochloride

Brand of Meperidine hydrochloride (isonipecaine)

DEMEROL, Trademark Reg. U.S. Pat. Off. & Canada

Winthrop CHEMICAL COMPANY, INC.
NEW YORK 13, N.Y. • WINDSOR, ONT.

CONTENTS

Experiences in Blood Banking in Europe and Their Application to Civilian Practice. Harry Agress, M.D., St. Louis 751

The Clinical Significance of the Rh Factor. Henry C. Allen, M.D., St. Louis 753

Recent Observations on Anemia in Scurvy. Leo J. Wade, M.D., E. W. Czebrinski, M.D., Genevieve Wood, M.D., St. Louis 756

Auditory Impairment in Returned Service Personnel. John Clair Howard, Jr., M.D., Kansas City 762

Safety of Mercurial Diuretics. John L. Horner, M.D., St. Louis 765

Tuberculosis Abstract 766

Book Reviews 769, 777, 784

Editorials—

Veterans Oppose Compulsory Health Insurance 771

Contributions 771

Heart Disease 771

News Notes 775

Deaths 775

Miscellany 775

Society Proceedings 776

Woman's Auxiliary to the Missouri State Medical Association 780

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Harrison H. Shoulder, Nashville.
President-Elect, Olin West, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgradnate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—V. T. Williams, Kansas City, Chairman (1948); R R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren*.

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade*, Howard, *Maries*, Miller, Moniteau, Montgomery, Morgan, *Osage*.

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair*, Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade*, Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald*, Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark*, Phelps, Pulaski, *Ripley*, Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger*, Butler, Cape Girardeau, Dunklin, *Iron*, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne*.

*Counties in italics are not organized.



30 days...
or life?

During baby's first critical 30 days, a lifetime may be gained or lost—good reason to minimize his burdens and leave him free from the gastrointestinal problems of excessive fermentation, upset digestion and diarrhea, and—good reason for 'Dexin' which has proved an excellent "first carbohydrate." Because of the high dextrin content it is not fermentable by the organisms usually present in the intestinal tract, and undergoes enzymic hydrolysis sufficiently slowly to permit absorption of dextrose about as fast as it is formed. No large quantities of fermentable carbohydrate are likely to be present in the intestine at any one time.

Readily soluble in hot or cold milk, 'Dexin' brand High Dextrin Carbohydrate permits the formation of soft, flocculent, easily digested curds. 'Dexin' *does* make a difference.

HIGH DEXTRIN CARBOHYDRATE **'Dexin'** BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.
'Dexin' Reg. Trademark

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N.Y.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethony
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	Morris Leech	Fayette	Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	Thomas A. Donnell	DeSoto
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	B. E. Ellis	Gideon	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Maryville	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford-Dent-Pulaski	9	G. E. Joseph	Salem	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield

Support for a natural transition



Modern practice seeks not to abolish but to *support* the natural transition called the menopause. Unnaturally large doses are avoided. The objective is to use "the smallest amount that will relieve symptoms."[1] This rational approach to therapy is greatly facilitated by the use of AMNIOTIN. Available in a wide range of forms and potencies, it permits ready adjustment of dosage and technique to meet the widely varying requirements of both mild and severe cases. A natural estrogenic complex, AMNIOTIN has symbolized true replacement therapy for over seventeen years. Highly purified; standardized in International Units.

Amniotin

TRADEMARK

1. Montgomery, J. B.: M. Clin. North America 29:205 (Nov.) 1945.

SQUIBB MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



the wounds after surgery . . .

Modern surgical care recognizes that it takes more than gauze and adhesive to "bind the wounds" of the operative case. It has been demonstrated that the prevention and treatment of nutritional deficiencies may be "decisive factors" in recovery following surgery.[1] In the field of oral and parenteral vitamins, Upjohn offers a full range of highly potent, convenient to administer, economical vitamins.

1. Am. J. Surg. *44*:288 (April) 1942.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

U P J O H N V I T A M I N S

Twenty-five Years of Doing Things Well . . .



A corner of the spacious Bacteriological Laboratories

Some of the physicians who gave us their business when we started two-and-a-half decades ago, are *still* on our books. Many others have looked to us to supply their medical needs year in and year out for ten, fifteen and twenty years.

Patronage sustained so continuously for so long a time is evidence of satisfaction sustained over an equal period.

The few products initially introduced have grown into a comprehensive list of distinguished pharmaceuticals widely distributed through the usual channels. The number of physicians who early gave us their confidence has increased to include a sizable percentage of United States physicians—and continues to increase because of our unrelenting insistence upon doing things well.

OUTSTANDING U.S. STANDARD BIOLOGICALS:
DIPHTHERIA TOXOID • TETANUS ANTITOXIN
SMALLPOX VACCINE • TYPHOID VACCINE

Also a representative list of glandular products and pharmaceuticals.

Repeated checks and rechecks safeguard U. S. Standard Products at every step.

U. S. STANDARD PRODUCTS CO.

WOODWORTH, WISCONSIN, U. S. A.

208 Reilly Bldg.
St. Paul and San Jacinto Streets
DALLAS, TEXAS

946 Merchandise Mart
CHICAGO, ILLINOIS

19 No. 4th Street
COLUMBUS 15, OHIO

124 W. 4th Street
I. W. Hellman Bldg.
LOS ANGELES 13, CALIFORNIA

Today's Patients... How Many Require Hormone Therapy?



Accumulating clinical evidence suggests very strongly the therapeutic value of the steroid sex hormones in the treatment of many conditions not hitherto associated with endocrine dysfunction.

Ciba, as a pioneer in sex hormone research and development, offers the profession a complete line of hormone products, in ampul, linguet and tablet form.

More detailed information on hormone therapy may be obtained by writing the Professional Service Department for the "Endocrine Review" series.

CIBA

CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT, NEW JERSEY
In Canada: **Ciba Company Limited, Montreal**

PERANDREN

... potent andragen, Ciba's testasterone prapionate, which, in addition ta its mare abvious indicatians such as eunuchism, hypagonadism and the male climacteric shows value in angina pectoris, and by virtue of its nitragen-retaining praperties, in conditions of general debility and malnutrition.

DI-OVOCYLIN

... Ciba's a-estradial diprapianate distinguished by patency and duration of effect in menopausal syndrame, and other gynecalagic conditions, shaws value in the treatment af peripheral vascular diseose and other experimentol indicatians.

Perandren and Di-Ovocylin—*Trademark Reg. U.S. Pat. Off.*

Eye-witness Reports...

IT is one thing to *read* results in a published research. Quite another to see them with your own eyes.

PUBLISHED STUDIES* SHOWED WHEN SMOKERS CHANGED TO PHILIP MORRIS SUBSTANTIALLY EVERY CASE OF THROAT IRRITATION DUE TO SMOKING CLEARED COMPLETELY, OR DEFINITELY IMPROVED.

But may we suggest that you make your own tests?



PHILIP MORRIS

PHILIP MORRIS & CO., LTD., INC.
119 FIFTH AVENUE, NEW YORK, N. Y.

*N. Y. State Journ. Med. 35 No. 11,590
Laryngoscope 1935, XLV, No. 2, 149-154

TO THE DOCTOR WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

"Benzedrine Inhaler appears to eliminate the pain and discomfort which children associate with 'nose drops'... It can be administered with ease even to infants."

Scarano, J. A., and Coppolino, J. F.:Arch. Pediat. 54:97

Widespread pediatric acceptance

Children accept treatment with Benzedrine Inhaler, N. N. R., willingly, often with eagerness, and show none of the hostility which so often complicates treatment with drops, tampons, or sprays. The Inhaler, furthermore, produces a shrinkage of the nasal mucosa equal to, or greater than, that produced by ephedrine.

Each Benzedrine Inhaler is packed with racemic amphetamine, S. K. F., 250 mg.; menthol, 12.5 mg.; and aromatics.



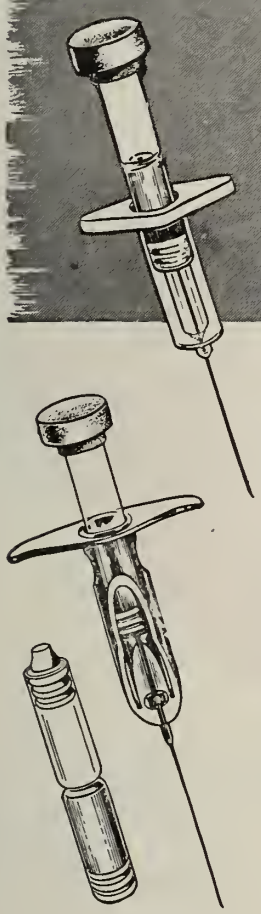
Benzedrine Inhaler

a better means of nasal medication

Smith, Kline & French Laboratories, Philadelphia, Pa.

So Simple

No
- sterilization before it's used
- waiting for it to cool
- rust or water particles to worry about
- doubt about the accuracy of the dosage
- cleansing after its use



. . . and when the injection is completed, you just throw it away. That's the simplicity of the B-D* Disposable Cartridge Syringe with Bristol Penicillin in Oil and Wax (Romansky Formula) in the unique cartridge with the aspirating stopper. *(Upper Illustration)*

One injection of this penicillin formula and you accomplish the work of eight of the aqueous solution.

Many physicians who appreciate the advantages of the cartridges prefer a permanent, sterilizable instrument. The B-D* Metal Cartridge Syringe (left) fills this need. Both types are available through your dealer.

*T.M. Reg. Becton, Dickinson & Co., Pat. No. 2,153,594.

Disposible Syringe and Cartridge (300,000 units Bristol Penicillin). Cartridges in boxes of one ond five. Metal Syringe in boxes of one each, with two needles.

BRISTOL PENICILLIN in OIL and WAX

(ROMANSKY FORMULA)

BRISTOL LABORATORIES INCORPORATED SYRACUSE 1, NEW YORK

NO. 5 in Schenley Laboratories' continuing summary of penicillin therapy

FURUNCULOSIS:

treatment with

PENICILLIN SCHENLEY

The efficacy of penicillin in overcoming infections caused by the pyogenic cocci associated with furunculosis and carbuncle was established from the first clinical reports of the original Oxford investigations. Today penicillin is acknowledged to be the drug of choice for the treatment of pyogenic dermatoses.

Rapidly successful results are secured by following the dictates of clinicians widely experienced in penicillin therapy

give enough—soon enough—long enough



1. PENICILLIN SCHENLEY (PARENTERAL) Initial injection of 25,000 units to establish an effective blood level, followed by injections of 25,000 units every 3 hours are suggested.



2. THE VALUE OF PENICILLIN OINTMENT SCHENLEY for topical application is quickly demonstrable where lesions are on the surface or readily accessible. Each gram of ointment contains 1,000 units of calcium penicillin incorporated in an anhydrous base.



3. THE VALUE OF PENICILLIN TABLETS SCHENLEY administered orally as a supplement to parenteral therapy is well established. They are particularly useful when continuing penicillin therapy is desirable. Each tablet supplies 50,000 units of calcium penicillin buffered with calcium carbonate, specially coated to overcome penicillin taste.

EXECUTIVE OFFICES: 350 FIFTH AVENUE • NEW YORK CITY

SCHENLEY LABORATORIES, INC.



"Now Daddy's got to go to another 'birthday party,' Son..."



● Somewhere high in the sky the stork is racing. But the doctor will be at its destination first. Ready and waiting.

Whether bringing life or guarding it, the doctor's personal life fades into the background when duty calls. He is "on duty" every minute of every hour of the twenty-four.

But he isn't complaining. Or asking for any special credit. It's his job—and he does it.



According to a recent independent nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.



Bad winter ahead for the pneumococci

STORMY DAYS are usually followed by sharp increases in the incidence of upper respiratory infections, often the prelude to pneumococcal pneumonia. Fortunately, physicians are prepared to combat the pneumococci with sulfonamides and penicillin.

Although sulfonamides are generally effective, problems sometimes arise in their administration. In the patient with cardiac or renal disease, it may be difficult to maintain proper fluid balance. This imbalance may lead to urinary tract complications. Others may experience untoward toxic effects or lack of response to the drug. In these cases, Penicillin, Lilly, is particularly valuable. While the intramuscular injection of 10 to 15 thousand units every three hours throughout the night and day might be helpful, doses of 20 thousand or more units at the same intervals are preferable. Penicillin, Lilly, is available in 20-cc. ampoules containing 100,000, 200,000, or 500,000 units.

Lilly

ELI LILLY AND COMPANY, INDIANAPOLIS 6, INDIANA U.S.A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 NOVEMBER, 1946 NUMBER 11

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

SYMPOSIUM ON BLOOD

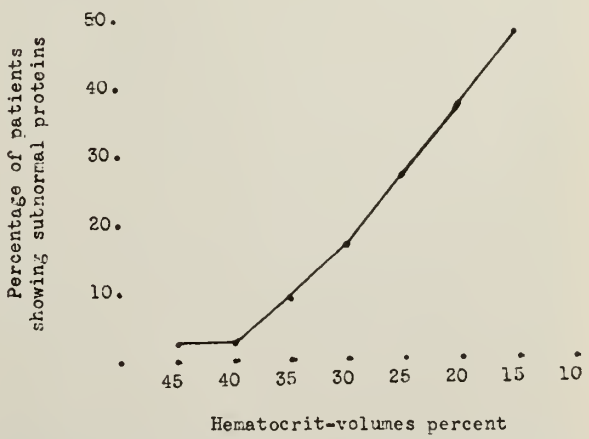
EXPERIENCES IN BLOOD BANKING IN EUROPE AND THEIR APPLICATION TO CIVILIAN PRACTICE

HARRY AGRESS, M.D.
ST. LOUIS

In the course of operation of the 21st General Hospital in North Africa, Italy and France, we had the opportunity of observing the growth of blood banking on a major scale. During our stay in North Africa, 213 transfusions were administered and blood was used in much the same fashion as it is used in civilian practice. There the emphasis was on the emergency aspect of transfusions or on obvious symptomatic requirements, such as profound anemia. In the following twelve months of operation this figure increased to 9,819 transfusions, although the admissions to the surgical service were only one and one half times as great as in the previous year. This tremendous increase in the use of whole blood is accounted for by a radically altered viewpoint as to the indications for transfusion in the management of the wounded soldier. It was proposed to correct serious traumatic orthopedic derangements by surgery at a much earlier stage than tradition had deemed wise, namely, a few days after injury. Experience with these orthopedic patients was so gratifying that the principles elaborated in managing them were extended to include surgical patients of all types. Many of these patients had received emergency and lifesaving quotas of whole blood and plasma in medical installations close to the battlefield. They had had sufficient surgical care to render them safely transportable to installations similar to ours. It was at these general hospitals several days after injury that "reparative surgery"[1] was proposed. Vaughan[2] has emphasized the great (and generally unrecognized) need for whole blood transfusions in this period of the management of the wounded.

Study was made of the blood status of 4,404 patients on admission to the surgical service of this hospital. The data which follow includes patients with wounds ranging from relatively minor ones to injuries of vast extent. The hemoglobin, hematocrit and total proteins were determined by the copper sulfate method,[3] which was found to be clinically accurate and to be particularly suitable to the needs for mass testing. Of the 4,404 patients studied, 64 per cent showed a deficit in either hemoglobin or total proteins or both. As might be expected the majority showed deficits in hemoglobin only and they constituted 61.8 per cent of the group. When a correlation was set up between the hemoglobin level and the percentage of patients showing a diminished total protein (below 6 grams per cent), it was found that an important relationship presented itself (fig. 1). At a

Figure 1.



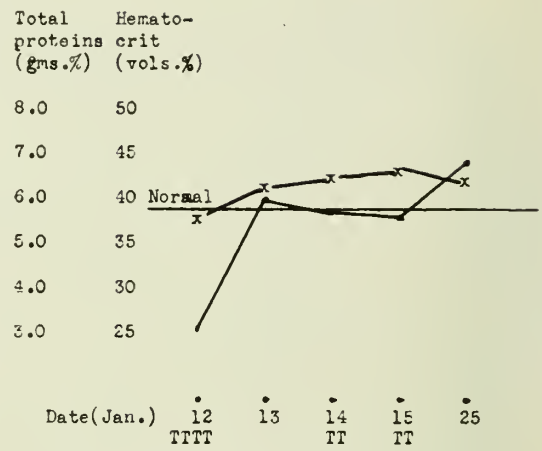
Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

hematocrit of 40 volumes per cent only 2.3 per cent of the patients had protein levels below normal, but at a level of 20 volumes per cent in the hematocrit, 38.7 per cent of patients had subnormal protein concentrations. Stated in other words, the more anemic the patient was the more likely he was to be low in total proteins as well. As might be expected, it was also found that there was correlation between the extent of injury and the blood levels. In a group of 182 "uncomplicated" compound comminuted fractures of the femur, 76.9 per cent of the patients were deficient in hemoglobin or total proteins. In another group of twenty-seven patients with complicated compound comminuted fractures of the femur, there was not a single case in which the hemoglobin or proteins were normal. It might be added here that this group of more seriously wounded men constituted the subject material for the application of the principles of reparative surgery.

It is well recognized that the protein status of patients bears an important relationship to surgical shock and to postoperative well-being. Elman[4] has emphasized this relationship and has extended it, pointing out that many patients have approached protein depletion long before the concentration of total proteins has become subnormal; so that one might presuppose that many patients have approached dangerous levels of tissue protein depletion which would make them poor surgical risks. Elman has further emphasized the importance of "acute protein starvation," a condition for which the soldier on the battlefield is an excellent candidate. One need look only at the gaunt appearance of most of these men to realize that serious nutritional depletion has occurred, and Lyons[5] calls attention to acute weight losses varying from 5 to 35 kilograms in wounded soldiers. Considering all these factors, it is no small wonder that this group was traditionally labeled "untouchables" insofar as formidable surgery was concerned.

The introduction of plasma, amino acids and other substances having a physiologic action approaching whole blood lent encouragement to more satisfactory management of the surgical patient. In fact, at the beginning of World War II, plasma had received such an enthusiastic reception that it had almost supplanted whole blood, especially in overseas theaters. However, it soon became generally apparent that although plasma was frequently lifesaving, it failed to sustain these patients through repeated surgical procedures. In these same instances whole blood was found to do the task. There is experimental evidence supporting these observations in the classical work of Whipple[6] who demonstrated that the "body guards jealously the fabrication of the hemoglobin and given a need for both plasma protein and hemoglobin, the protein flow favors hemoglobin synthesis." Here were patients with both hemoglobin and protein deficiencies and it seemed to follow from Whipple's observations that if their hunger for hemoglobin were satiated, there would be improvement in their protein status. Figure 2 presents such sequence in a typical surgical case. With normal physiology restored, the surgeons had patients who had been converted from poor surgical risks to excellent ones. That this was so clinically was attested by the results in the operating rooms of this hospital, where surgical shock was practically nonexistence after the institution of this program, despite the fact that the program included the performance of formidable major surgery.

Figure 2.



"Uncomplicated" compound fracture of femur; operation -debridement and internal fixation 5 days after injury. Operation 13 Jan.

Legend: •——•——•——• Hematocrit T-Transfusion
x——x——x——x Total proteins (500cc.)

In order to restore hemoglobin values to normal, it was found that previous concepts as to the amount of blood that each patient would need had to be revised in the direction of giving a great deal more whole blood than previously had been considered necessary. Although no hard and fast rules can be pronounced as to requirements of a given case, it was found generally that for each increment of 3 volumes per cent deficit in the hematocrit below 45 volumes per cent, there was required 500 cc. of blood to restore blood values to normal. At an initial level of 33 volumes per cent in the hematocrit, 2,000 cc. of blood were required. These initial requirements usually were given within a forty-eight hour period just prior to and during the course of an operation. Of course, the amounts of blood were further modified by surgical intervention, infection and additional bleeding. The progress of each patient was followed by serial copper sulfate determinations and adjustments were made in the amount given subsequent to the initial dosage. Analysis showed that 1,749 patients received 7,692 transfusions of 500 cc. each, an average of approximately 2,150 cc. of whole blood per patient. Most of the seriously wounded orthopedic

cases required from eight to twelve transfusions to keep them in balance. Attention is again called to the fact that many of these patients had already received blood and plasma in forward hospitals prior to coming to our unit.

In order to handle the large quantities of blood required for this program, operation of a blood bank was a prime requisite. The laboratory service assumed complete responsibility for the functioning of the blood bank. Enlisted laboratory technicians were used for every phase of operating the blood bank, excepting the administration of blood to patients. The bank was organized on an assembly line basis and with this organization it was possible to procure, process and administer as many as 132 transfusions in one day without the utter confusion that might be anticipated in handling such quantities of blood. (The laboratory staff consisted of twenty enlisted men and three officers and handled the routine of a general clinical laboratory along with the blood bank.) The source of our blood was chiefly from members of the Armed Forces overseas, although some blood was flown from the United States to us by the American Red Cross. In the selection of donors, special attention was directed toward the possibility of transmission of hepatitis and malaria and measures were taken to minimize these hazards. Typing and crossmatching were performed on every blood unit passed out of the blood bank. Although type "O" blood was used to some extent as "universal" donor, the preference was the use of "type for type." However, no unpleasant experiences were had when type "O" was used for patients other than this type.

The reaction rate encountered in one series of over 400 transfusions studied carefully was approximately 3 per cent. Most of these were of a pyrogenic nature. One full blown, nonfatal, hemolytic reaction in an Rh negative sensitized individual was encountered.

From the experiences related here, I have gained the impression that whole blood has a greater place in the management of the surgical casualty (traumatic or otherwise) than it has been given in the past. It is recommended that whole blood be used in the preoperative care of the anemic patient in quantities adequate to restore normal values. Although plasma may be a lifesaving measure, whole blood should be used when available in preference to plasma because it furnishes more for the patient. It is felt further from our experiences that whole blood hastens the convalescence of the patient to the point of making it economically worthwhile. More whole blood is not used in many places because it is not readily available. The establishment of a blood bank will remedy this defect. In the use of donors, attention is invited to the prevalence of malaria and hepatitis in members of the Armed Forces and that careful histories, as well as proper laboratory procedures, be carried out if they are used as donors.

634 N. Grand Ave.

BIBLIOGRAPHY

1. Churchill, E. D.: Surgical Management of Wounded in Mediterranean Theater at Time of Fall of Rome, Ann. Surg. **120**:268-283 (September) 1944; Hampton, O. P., Jr.: Reparative Surgery of Compound Battle Fractures in the Mediterranean Theater of Operations, Ann. Surg. **122**:289-339 (September) 1945; Hampton, O. P., Jr.: *ibid* **123**:1-26 (January) 1946; **123**:238-275 (February) 1946.
2. Vaughan, J. M.: The Transfusion of Whole Blood and Blood Derivatives Under Emergency Conditions, J. A. M. A. **123**:1020-24 (Dec. 18) 1943.
3. Phillips, R. A., et al.: The Copper Sulfate Method for Measuring Specific Gravities of Whole Blood and Plasma, Bull. U. S. Army M. Dept. **71**:66-83 (December) 1943.
4. Elman, R.: Acute Starvation Following Operation or Injury With Special Reference to Caloric and Protein Needs, Ann. Surg. **120**:350-361 (September) 1944.
5. Lyons, C.: Penicillin Therapy of Surgical Infections in the U. S. Army, J. A. M. A. **123**:1007-18 (Dec. 18) 1943.
6. Whipple, G. H.: Hemoglobin and Plasma Proteins; Their Production, Utilization and Interrelation, Am. J. Med. Sc. **203**:477-489 (April) 1942.

THE CLINICAL SIGNIFICANCE OF THE RH FACTOR

HENRY C. ALLEN, M.D.
ST. LOUIS

It has been six years since Landsteiner and Wiener reported to the scientific world the discovery of the Rh factor and every day the literature is becoming more voluminous with additional papers regarding this important contribution to medical science. I am inclined to agree with the English school of scientists in that there has been far too much rehashing of the subject for the number of new facts produced. There have been too many people like myself who have been asked to review the subject without contributing anything to the scientific knowledge of the subject.

In the time allotted, it will be impossible to review the Rh factor and all of its manifestations in minute detail. I can only hope to touch briefly on the high points of the scientific facts and leave much of the controversial material for future investigations to clarify. There are many excellent reviews for consultation if one wishes to delve deeper into the theoretic aspects of the subject. There are a number of important findings, however, which have a direct bearing on the practice of medicine today and it is these with which this paper is concerned.

The Rh factor has clinical importance in two conditions; namely, intragroup transfusion reactions, and fetal erythroblastosis. It has also some forensic value in excluding paternity and in examination of blood stains.

The Rh factor is an antigen present in the red blood cells of 87 per cent of white people and absent in the other 13 per cent. It is similar to the antigens which divide all people into the four major blood groups in the common O-A-B- classification. It was originally thought that Rh was a single antigen, but it is now known that there are at least five antigens giving rise to at least eight Rh blood types. With the 87 per cent of the people who have this factor one is little concerned, but the 13 per cent who lack this factor are capable of becoming sensitized and producing antibodies against it when

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

immunized by the parenteral injection of whole blood or by the accidental transplacental injection of red blood cells of an Rh positive fetus.

IMPORTANCE IN BLOOD TRANSFUSIONS

It has been estimated that sensitization to the Rh factor is the cause of about 90 per cent of the intragroup hemolytic transfusion reactions which occur. If this is true, then the determination of the Rh factor routinely in both donors and recipients is of some importance in eliminating this danger of the administration of whole blood, a therapeutic measure which has become of increasing importance in modern medicine.

Theoretically, any Rh negative individual may become sensitized by an injection of whole Rh positive blood, by any parenteral route, intravenous, intramuscular, intraperitoneal or subcutaneous, or in the case of women, by the presence in the uterus of an Rh positive fetus. Antibodies thus produced are capable of reacting violently with Rh positive red cells from a subsequent injection. Fortunately only about one in twenty-five of such individuals actually develop these antibodies, the number increasing with repeated exposures to the antigen. These antibodies are not easily demonstrated in the test tube and the routine pretransfusion crossmatching tests often fail to pick them up.

Thus in an ideal hospital transfusion service only Rh negative blood would be given to an Rh negative individual because it would be less apt to result in a hemolytic reaction and it would not sensitize the individual to the Rh antigen. This would necessitate having available, at all times, Rh negative blood in the blood bank of a hospital or Rh negative donors on immediate call. Practically, this procedure is possible because the technic of determining the Rh factor can be mastered by any intelligent technician and potent anti-Rh serums, both animal and human are available, commercially, or can be obtained from sensitized individuals.

Some transfusion reactions have been observed in Rh positive individuals which are explained on the difference in the Rh subgroup, an individual becoming sensitized to one of the Rh antigens present in the donor's cells but absent in the recipient's cells.

IMPORTANCE IN PREGNANCY

Of somewhat greater importance is the role the Rh factor plays in pregnancy which was first established by the work of Levine. If an Rh negative woman has been sensitized by a previous parenteral administration of whole Rh positive blood or by a previous Rh positive pregnancy, the antibodies so produced will cause the development of erythroblastosis or related conditions of hydrops, hemolytic anemia and icterus gravis in subsequent Rh positive pregnancies.

The determination of the Rh factor is an important prenatal test for two reasons: (1) Rh negative blood can be available in case the Rh negative mother needs a transfusion on delivery and (2) the baby can be observed closely for signs of erythroblastosis and prompt therapy instituted. It is far better for the obstetrician and the intelligent parent to be forewarned on the possibility of such a disease occurring than to have it suddenly appear when lack of preparation may mean the difference between a living and dead baby.

It is important to establish definitely the diagnosis of those conditions which might be due to Rh incompatibility because it affects the outlook of the future pregnancies of the mother. Ideally, one should demonstrate an antibody in the baby's serum which is incompatible with the baby's own cells. This is seldom possible at the present time. The demonstration of the fact that the mother is Rh negative and the child Rh positive is not sufficient. The demonstration of antibodies in the mother's serum is suggestive but not diagnostic. The living child should be examined for erythroblastemia, anemia, bilirubinemia, edema, hepatoe megaly and splenomegaly. The stillborn child should be autopsied for evidence of extramedullary hematopoeisis in the liver and spleen, degeneration of the liver and kernicterus. Potter states that any full term stillborn fetus with a spleen weighing 25 grams or larger in the absence of syphilis is erythroblastosis. Even in macerated fetuses, the presence of large nucleated cells in the capillaries of the alveolar walls of the lungs (Potter) and the presence of stainable iron pigment in the liver (Macklin) are diagnostic anatomic points.

Once an Rh negative mother has delivered an erythroblastotic child, her chances of having a normal Rh negative child will depend on whether her husband is homozygous or heterozygous in regard to the Rh factor. This sometimes can be determined by testing other children in the family or the husband's parents. If an Rh negative individual is found in these examinations, then the husband is heterozygous and the wife has a fifty-fifty chance of having a normal Rh negative child. Determining the Hr factor in some individuals is also helpful in determining whether the father is homozygous or heterozygous.

Recent laboratory work of Diamond and Wiener has shown that antibodies in the serum of the mother and child are demonstrated much more readily if the cell suspensions used are not made with saline but with compatible human serum or plasma or 20 per cent bovine albumin. This indicates the necessity, in most instances, of the presence of a protein substance before agglutination can take place. This has been shown not to be complement because it is not destroyed when inactivated at 60 C. The demonstration of agglutination in the presence of this so-called "X-Protein" indicates the presence of an inhibitor substance, perhaps another antibody, which Wiener believes to be much more important than the agglutinins in the pathogenesis of erythroblastosis fetalis.

By means of the Diamond slide test or the Wiener

conglutination test anti-Rh antibodies can be demonstrated in the serum of a large majority of mothers of erythroblastotic infants. In fact, the use of compatible serum or plasma cell suspensions in routine Rh testing gives much clearer results than the use of saline suspensions. This seems to work with both human and animal anti-Rh sera.* The knowledge of the necessity of this "X-Protein" may be used in devising a better pretransfusion compatibility test.

The determination of antibodies and their titer in the serum of the sensitized Rh negative woman during the course of a pregnancy may have some value in predicting the outcome of the present pregnancy. It is known, however, that the antibody titer in the mother's serum may rise even if the intrauterine fetus is Rh negitave.

It has been the observation of many that those babies with an initial anemia respond better to transfusion therapy and in general have a lower mortality than those with a normal count and a rapidly developing severe icterus. Just what makes the difference in these babies has not been determined and until more adequate knowledge of the pathogenesis of the disease is available, the treatment will not be satisfactory in all cases.

A few words about treatment, in general, of these conditions: First of all the baby should not be given any of the mother's milk as this contains more antibodies and will aggravate the disease. Fresh whole blood transfusions should be given in cases of anemia to supply deficient red cells and prothrombin. Danis believes that the use of choline chloride and glucose will help support the liver which in most instances is severely damaged. Oxygen and heat should be given in sufficient amounts in all anemic babies. In spite of intensified therapy of all types, a certain number of these infants die of severe liver damage, cerebral hemorrhages or kernicterus. Some live to have residual brain damage from the kernicterus.

It must be kept in mind that Rh incompatibility will not explain all stillbirths, abortions or infantile deaths nor will it explain all cases of jaundice in the newborn.

IMPORTANCE IN FORENSIC MEDICINE

Mention shoud be made of the importance of the Rh factor in legal medicine; namely, for individual identification and in cases of disputed parentage. Most of this work has been done by Wiener. With the inclusion of the eight Rh blood types along with the main blood groups, the subgroups, M and N types, and the P factor, this brings to 288 the varieties of human blood which can be distinguished.

The grouping of human blood can be used only to prove that certain blood did not come from a certain person and they cannot be used as proof that it did come from that person.

The use of the Rh blood types raises the chances of exclusion of parentage to approximately 45 per cent.

At the present time the various types of Rh antisera are somewhat limited and Rh typing (the determination of the subtypes of Rh) is being performed only in the larger laboratories.

* It must be kept in mind, however, that in using animal anti-Rh serum, false positives will be obtained in infants.

SUMMARY

1. Rh testing should be performed routinely on all donors and recipients prior to blood transfusions and only Rh negative blood used on Rh negative individuals, if one wishes to avoid intragroup transfusion reactions.

2. Sensitization of an Rh negative woman may occur from receiving Rh positive blood by any route and may result in the delivery of an erythroblastotic infant.

3. Rh testing should be a part of the prenatal routine of all women, particularly those women who have a history of having a stillborn child or an erythroblastotic child.

4. It would be helpful if Rh negative women with Rh positive husbands had tests for antibodies, during their pregnancy, particularly the latter months of the pregnancy, using the Diamond slide test or the Wiener conglutination test.

5. Stillbirths should be autopsied for evidence of erythroblastosis.

6. All babies of Rh negative mothers and Rh positive fathers should be closely observed during the first few days of life for signs of erythroblastosis, and prompt therapy instituted, if they occur.

7. Rh typing has some value in forensic medicine.

CONCLUSIONS

Determination of the Rh factor is a laboratory procedure which has some practical applications in clinical medicine. Much work is yet to be done before all of its implications will be thoroughly understood.

634 N. Grand Ave.

BIBLIOGRAPHY

1. Boorman, K. E.; Dodd, B. E., and Mollison, P. L.: The Incidence of Haemolytic Disease of the Foetus ("Erythroblastosis Foetalis") in Different Families. The Value of Serological Tests in Diagnosis and Prognosis, J. Obst. & Gynec. Brit. Emp. **51**:1, 1944.

2. Boyd, W. C.: Rh Blood Factors: An Orientation Review, Arch. Path. **40**:114, 1945.

3. Danis, P. G., and Anderson, W. A. D.: Choline Chloride in the Treatment of Icterus Gravis Neonatorum, South M. J. **35**:1070, 1942.

4. Davidson, I.: Rh Antibodies, Am. J. Clin. Path. **15**:95, 1945.

5. Davidson, I.: Fetal Erythroblastosis, J. A. M. A. **127**:633, 1945.

6. Diamond, L. K., and Abelson, N. M.: The Demonstration of Anti-Rh Agglutinins: An Accurate and Rapid Slide Test, J. Lab. & Clin. Med. **30**:204, 1945.

7. Diamond, L. K.: The Clinical Importance of the Rh Blood Type, New Eng. J. Med. **232**:447 and 475, 1945.

8. Diamond, L. K., and Denton, R. L.: Rh Agglutination in Various Media with Particular Reference to the Value of Albumin, J. Lab. & Clin. Med. **30**:821, 1945.

9. Leonard, M. F.: Hemolytic Disease of the Newborn (Erythroblastosis Fetalis), J. Pediat. **27**:249, 1945.

10. Levine, P.: Erythroblastosis Fetalis and Other Manifestations of Isoimmunization, West. J. Surg. Obst. & Gynec. **50**:468, 1942.

11. Levine, P.: The Pathogenesis of Fetal Erythroblastosis, N. Y. State J. Med. **42**:1928, 1942.

12. Macklin, M. T.: The Diagnosis of Rh Incompatibility Especially by Microscopic Appearances: Its Relation to The Syndrome Formerly Diagnosed as Erythroblastosis, J. Pediat. **25**:533, 1944.

13. Potter, E. L.: Present Status of the Rh Factor, Am. J. Dis. Child. 68:32, 1944.
14. Wiener, A. S.: The Rh Blood Types and Some of Their Applications, Am. J. Clin. Path. 15:106, 1945.
15. Wiener, A. S., and Sonn, E. B.: Heredity of the Rh Blood Types. IV. Medicolegal Application in Cases of Disputed Parentage, J. Lab. & Clin. Med. 30:395, 1945.
16. Wiener, A. S.: Conglutination Test for Rh Sensitization, J. Lab. & Clin. Med. 30:662, 1945.
17. Wiener, A. S.: Rh Factors in Clinical Medicine, J. Lab. & Clin. Med. 30:957, 1945.
18. Wiener, A. S.: Pathologenesis of Congenital Hemolytic Disease (Erythroblastosis Retalis). I. Theoretic Considerations, Am. J. Dis. Child. 71:14, 1946.
19. Wiener, A. S., and Sonn, E. B.: Pathogenesis of Congenital Hemolytic Disease (Erythroblastosis Fetalis). II. Illustrative Case Histories of Rh Sensitization, Am. J. Dis. Child. 71:25, 1946.
20. Young, L. E., and Kariher, D. H.: Hemolytic Transfusion Reactions Due to Rh Incompatibility, J.A.M.A. 127:627, 1945.

RECENT OBSERVATIONS ON ANEMIA IN SCURVY

LEO J. WADE, M.D.,
E. W. CZEBRINSKI, M.D.,
AND
GENEVIEVE WOOD, M.D.
ST. LOUIS

Most observers agree that anemia is a common clinical manifestation of scurvy.[10, 11, 13, 17, 24] Adults apparently are more likely to develop such anemia than are children. Mettier and his coworkers [17] report anemia in approximately 70 per cent of scorbutic adults while Baar[3] states that on the basis of his personal experience, he is sure that somewhat more than one third of the children with Barlow's disease have normal blood counts.

Whether or not vitamin C deficiency per se is responsible for such anemia has been the basis of considerable controversy. The patient almost invariably presents evidences of bleeding and deficiency of other dietary essentials such as iron and vitamin B complex. In some instances, a mild icterus suggests the possibility of a hemolytic process as well.[24] Howard and Mills writing in "The Oxford System of Medicine" state, "There is at present a growing belief that anemia is not a part of the scorbutic picture but rather evidence that the diet is deficient in other substances necessary to normal erythropeiesis."[10] A similar view has been presented by Abt and Farmer.[1] A number of other observers, on the other hand, have described scorbutic patients in whom blood cell formation progressed satisfactorily on vitamin C therapy without the use of any of the known essential factors for red cell formation. It is certainly true, however, that many of these reports are subject to criticism because of inadequate control observations.

Several observers have been impressed by the absence of any correlation between the presence or severity of anemia and the other symptoms and signs of scurvy (including plasma levels of ascorbic acid).[2, 5] In experimental human scurvy anemia did not appear in spite of complete absence of ascorbic acid from the blood (including the cells) for as long as thirty days.[4, 21] Liu and coworkers studied the blood picture of a group of boys on deficient vitamin C intake with low plasma levels.[14] They observed alleviation of the anemias present on iron but not on ascorbic acid therapy. None of these subjects had clinical evidences of scurvy. Likewise, Lozner studied the hematologic response of five patients whose plasma was devoid of any ascorbic acid.[15] No response to ascorbic acid occurred so far as he could determine by study of the reticulocyte count and the rate of hemoglobin formation. Lozner was impressed by the possibility of blood loss being important since two of the five patients had a reticulocytosis at the time they were first examined. These patients had no clinical evidences of scurvy. Lozner criticized much of the published data because improvement of the red blood count had often been attributed to the vitamin C content of the diet when the diet was known to contain added quantities of iron and other dietary essentials as well.

Mettier, Minot, and Townsend, in a much quoted publication, described changes in the peripheral blood and the sternal marrow which they believed to be secondary to vitamin C deficiency since the changes regressed under vitamin C therapy.[17] The argument presented is somewhat clouded, however, by the fact that orange juice was used as a source of vitamin C. The iron content thereof might conceivably ameliorate existing iron deficiency. This possibility was at least partially eliminated, however, by the use of iron therapy for six days while the patient remained on a vitamin C deficient diet. No change occurred in the reticulocyte count until orange juice was added. A reticulocytosis occurred three days later. The authors concluded that chronic lack of vitamin C led to an impairment of bone marrow function which might have been intensified by other chronic factors. A more recent and extensive study was reported by Vilter.[24] Eight of ten adult scorbutic patients were found to have anemias which progressed or remained stationary during a preliminary period of observation on a diet deficient in both vitamin C and the B complex. While maintained on the same dietary regime, 500 mgs. of ascorbic acid was given daily. Following an initial or induced reticulocytosis the red blood cell count and the hemoglobin returned to normal.

Experimental scurvy in guinea pigs is usually associated with anemia.[2, 16] Such anemia can be prevented by ascorbic acid but not by iron.[2] Reticulocytosis may be produced by orange juice or ascorbic acid although reticulocytosis is also common in advanced untreated scurvy.[16] It is of interest that Aron found the anemia refractory if more than 25 per cent of the body weight was lost. It is also of considerable interest that the anemia responded to therapy long before the body weight returned to normal. The latter observation might suggest that the hematopoietic system is less sensi-

From the Department of Medicine and Preventive Medicine, Washington University School of Medicine, and the St. Louis City Hospital.
Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

tive to ascorbic acid deficiency than some other tissues.

The anemia described is usually normocytic and normochronic in type,[18, 20, 24] although macrocytic hyperchromic cells are not infrequently observed[12, 18, 24] presenting a blood picture similar to that seen in pernicious anemia.[7, 12, 17] Occasionally, the color index may be less than one if bleeding complicates the picture.[17]

An initial reticulocytosis is not uncommon[6, 16, 24] and may persist or even increase while the patient is kept on a deficient diet.[24] In guinea pigs a similar reticulocytosis is seen in advanced stages of untreated scurvy.[16] Lozner interpreted this initial reticulocytosis as evidence of blood loss.[15] The icteric index is sometimes slightly elevated.[24] There may be increased amounts of urobilinogen in the urine but no bile. The degree of jaundice, however, has no obvious correlation with the extent of the ecchymosis or the severity of the anemia.[24] The platelet count is within normal limits.[24] The white blood cell count is usually less than 6,000.[17, 24] The differential count is probably normal[24] although a slight lymphocytosis has been reported.[17]

Harris studied the marrow of the ribs and femurs in a single autopsied case.[9] He described the marrow as gelatinous and devoid of the usual number of leukoblastic and erythroblastic areas. Sternal marrow studies have been more numerous. Moderate hyperplasia of the marrow has been described with an increase in the late erythroblasts and normoblasts.[24] The marrow of two adults studied by Israels was found to show a diminshed cellularity.[11] Depression of the normoblasts was interpreted as indicating a failure of erythropoiesis. Therapy is said to cause a return to normal.[11, 17, 24] Some observers have interpreted the bone marrow findings as indicating maturation arrest at certain levels of development;[12, 26] hence megaloblastic and normoblastic marrows have been described. It is doubtful, however, that vitamin C has any specific effect at any given stage. It is more probable that whatever influence it has on blood cell formation is exerted throughout the entire range of maturation from the endothelial cell to the adult erythrocyte.[11, 20]

Our interest in the anemia of scurvy was initiated by the admission of an 85 year old white woman to the New Haven Hospital some seven or eight years ago. She had a profound macrocytic anemia of at least two years' duration. Adequate liver therapy followed by iron therapy during these two years had no apparent effect upon the anemia. At the time of admission to the hospital the patient had other clinical evidences of scurvy which were unmistakable. On ascorbic acid therapy, the patient's red count rose from less than 2 million to approximately 4.5 million in a period of eight or ten weeks. Similar experiences have been reported by other observers.[7, 12, 17] During the last few years, we have had the opportunity to study several additional patients with scurvy. Observations on the anemia presented by these patients forms the basis of this report.

CASE REPORTS

M. H., a 51 year old, white male was admitted to the St. Louis City Hospital on September 29, 1945, complaining of pains in the lower extremities.

Past History.—Noncontributory.

Present Illness.—The patient felt moderately well until three weeks prior to admission. At that time, he noted pain, swelling and bluish discoloration of both legs. Two weeks prior to admission the patient became extremely weak. These signs and symptoms became progressively more severe. The dietary history revealed that the patient had eaten nothing but white bread for the preceding seven months.

Physical Examination.—Temperature was 98.6 F., pulse 100, respirations 18, and blood pressure 90/70. The patient was a well developed, poorly nourished, chronically ill white male. There was a bluish discoloration about the lips. The skin over the thighs was purple in color, swollen, indurated and tender. Many petechiae and ecchymoses were present over the legs. A one plus pretibial edema was noted. The mucous membranes were pale. A few loose teeth remained. The gums were hypertrophic, boggy and bled easily. The tongue was pale but not atrophic. There was no cheilosis. The tendon jerks were hyperactive and equal bilaterally. Full extension of the thighs and legs caused severe pain.

Laboratory Examination.—Blood count: (see table I). Urine was normal. Prothrombin was 100 per cent. Bleeding time was 2 minutes (normal 2 to 4). Clotting time was 12 minutes (normal 10 to 20). Clot retraction was good. Plasma vitamin C level was 0.23 mgs. per cent (normal 0.75 mgs. per cent or more). Total plasma proteins: 5.1 gms. per cent (normal 6.5 to 7.5).

Course and Treatment.—The patient was given 200 milligrams of ascorbic acid daily and a high vitamin, high calory diet. There was prompt cessation of the hemorrhagic manifestations and slower clearing of the ecchymoses. The hematologic response is outlined in table I. The patient was discharged on October 28 on 50 milligram of ascorbic acid daily.

TABLE 1.

Date	Rbc.	Hb.		Retics	Hemato-crit.	Indices			Wbc.	Platelets
		Gms.	Per Cent			M.C.V.	M.C.Hb.	M.C.Hb. Conc.		
Sept. 30, 1944	1.4	4.1		17.6					5,300	441,600
Oct. 5, 1944	2.1	6.5		25.5	25	120	31	26	2,900	501,600
Oct. 11, 1944	3.3	9.0							3,100	
Oct. 19, 1944	3.7	12.1							4,600	
Oct. 24, 1944	4.0	12.4		2.3					5,150	
Oct. 28, 1944	4.3	12.9				97	30	31		
Jan. 26, 1945	5.0	16.2			48	94	32	34	6,350	
June 3, 1945	5.0	15.8	102		48	91	32	35	5,300	

TABLE 2.

Date	Rbc.	Hb.		Retics	Hemato-crit.	Indices			Wbc.	Platelets
		Gms.	Per Cent			M.C.V.	M.C.Hb.	M.C.Hb. Conc.		
Oct. 10, 1944	2.5	7.8		6.1		100	30	30	6,150	535,900
Oct. 13, 1944	2.5	7.8		6.1					6,250	
Oct. 17, 1944	3.2	9.2		8.2						
Oct. 23, 1944	3.3	10.3		6.0						
Oct. 26, 1944	3.4	10.9		1.8						
Dec. 9, 1944	4.0	14.5				100	36	36		
May 24, 1945	4.6	15.4			44	96	34	35	6,350	

COMMENT

This was a typical, "full blown" case of so-called bachelor scurvy. The initial hematologic picture was characterized by a profound macrocytic anemia with a reticulocytosis and a low white count. Following the onset of ascobic acid therapy the scorbutic picture improved rapidly. This was accompanied by dramatic changes in the blood picture. While no attempt was made to deprive the patient of iron or vitamins, the diet offered him contained only the ordinary daily requirements. No other medication was given. While absolute proof is not available, the authors believe this patient had a true scorbutic anemia.

J. P., a 74 year old, white male was admitted to the St. Louis City Hospital on October 9, 1945, complaining of pains in the legs and dyspnea on exertion.

Past History.—Noncontributory.

Present Illness.—Three months prior to hospitalization the patient noted the onset of dyspnea on exertion. The patient had occasional precordial pain which did not radiate. He also noted a loss of thirty pounds up to the time of admission.

Four weeks prior to hospitalization ankle edema appeared. His local physician prescribed digitalis with questionable improvement in the patient's condition. Shortly afterward he observed petechiae on his shins and ankles. These lesions coalesced to form ecchymoses which became purplish in color. At the same time the patient also noted tenderness and pain in his calves and back of his knees.

For the preceding six to eight months, the patient's diet had consisted of one egg fried in bacon fat for breakfast and canned noodle soup for the other two meals. This was supplemented with coffee.

Physical Examination.—Temperature was 98.4 F., pulse 94, respirations 30 and blood pressure 120/70. The patient was a well-developed, but very poorly nourished man who appeared slightly dyspneic even while sitting in bed. The skin over the dorsum of the hands and wrists presented a deep brown pigmentation. Many petechiae were present over the thighs, shins and ankles. Many of these were bright red while others had coalesced to form purple ecchymoses.

The mucous membranes were pale. The patient was edentulous and the gums revealed no lesions. The tongue was normal in appearance. The heart was not enlarged. A normal sinus rhythm was present. The lungs were clear.

Laboratory Findings.—Blood count (see table 2). Urine was normal. Prothrombin was 100 per cent. Bleeding time was 2 minutes. Clotting time was 17½ minutes. Clot retraction was good. Plasma vitamin C level was 0.25 mgs. per cent. Total plasma protein was 5.6 gms. per cent.

Course and Treatment.—The patient was given 300 mgs. of ascorbic acid daily and placed on the regular ward diet. On this regime the patient's dyspnea, edema and hemorrhagic manifestations improved rapidly. At the time of discharge, October 30, there remained only some brownish pigmentation over the hands and legs.

The patient continued taking 25 mgs. of ascorbic acid three times daily and was encouraged to eat plenty of fresh fruit, liver and pork.

The patient's hematologic response is summarized in table 2.

COMMENT

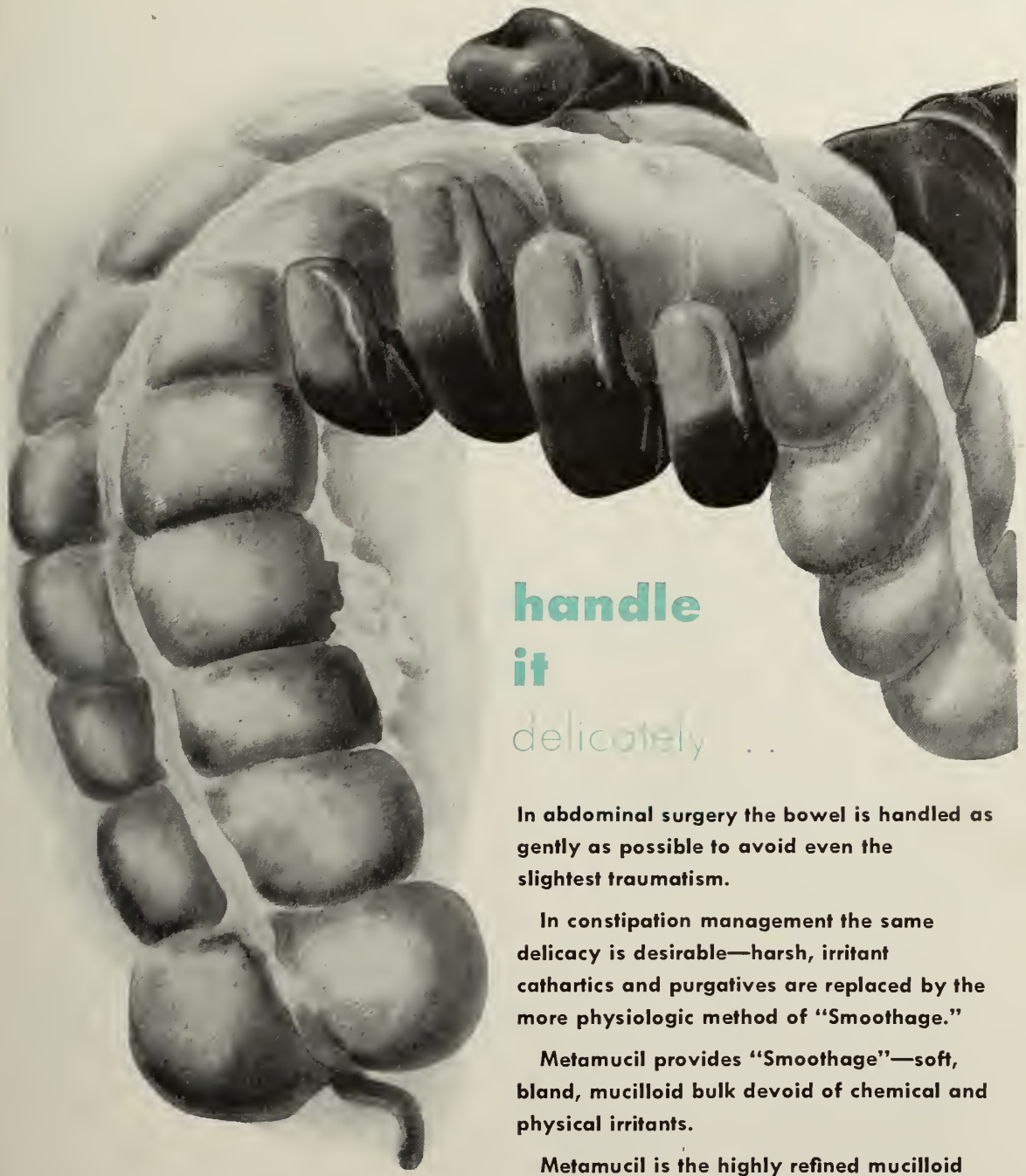
This was another case of severe "bachelor scurvy." The anemia was severe but by no means as profound as in the preceding case. The mean corpuscular volume was increased moderately. Therapy brought about striking changes in the scorbutic picture but only moderate improvement in the anemia during the two weeks of close observation. Following discharge from the hospital, the patient may have received an abundant supply of other dietary essentials. It seems more likely, however, that his diet continued to be inadequate because poverty was the basis for his previous dietary habits. He did continue to take 75 mgs. of ascorbic acid daily, however, and it seems reasonable to suppose that the continued improvement in his hematologic picture was due to this therapy.

C. M., a 35 year old male imbecile, was admitted to the St. Louis County Hospital on December 12, 1945, because of his refusal to eat.

Past History.—The patient had been unable to care

TABLE 3.

Date	Rbc.	Hb.		Retics	Hemato-crit.	Indices			Wbc.	Platelets
		Gms.	Per Cent			M.C.V.	M.C.Hb.	M.C.Hb. Conc.		
Dec. 12, 1945	3.4	9.5	63	10.5	30	87	28	32	10,850	728,000
Dec. 14, 1945	3.7	9.1	59	13.8					6,850	
Dec. 17, 1945	3.8	9.5	62	15.6					3,800	
Dec. 21, 1945	4.2	10.9	71	10.5					7,400	
Dec. 27, 1945	4.3	10.4	68	3.1					5,200	
Jan. 3, 1946	4.8	12.2	79	3.2					8,450	
Jan. 18, 1946	4.6	12.4	80	1.5					5,250	
Feb. 1, 1946	5.2	14.4	93		48	95	28	30		



handle it delicately . .

In abdominal surgery the bowel is handled as gently as possible to avoid even the slightest traumatism.

In constipation management the same delicacy is desirable—harsh, irritant cathartics and purgatives are replaced by the more physiologic method of "Smoothage."

Metamucil provides "Smoothage"—soft, bland, mucilloid bulk devoid of chemical and physical irritants.

Metamucil is the highly refined mucilloid of a seed of the psyllium group, Plantago ovata (50%), combined with dextrose (50%).

Metamucil is the registered trademark of G. D. Searle & Co., Chicago 80, Illinois

SEARLE

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

RESEARCH IN THE SERVICE OF MEDICINE

In the Dietary of Diabetes Mellitus

Prior to the advent of insulin, excessive protein breakdown was a frequent occurrence in the uncontrolled diabetic patient. This protein waste manifested itself in the excretion of large amounts of nitrogen in the urine, a situation encountered even today when long standing diabetes mellitus is first detected in a patient.

The basis underlying this faulty protein metabolism is an increased conversion of protein to carbohydrate, derived from the glycogenic amino acids. Consequently, restriction of protein intake was justified, even at the expense of negative nitrogen balance.

Through the use of adequate amounts of insulin, protein breakdown for glycogenesis is largely preventable. Based on the modern concept of the vital role of protein in the body economy, the prescribed dietary initially provides at least 1.5 Gm. of protein per Kg. of body weight* to compensate for past negative nitrogen balance. After the first few weeks of treatment, the protein intake is dropped to not less than 70 Gm. daily.

This liberal protein allowance, readily "covered" by insulin, has the additional advantages of providing generous amounts of B complex vitamins, and of exerting a beneficial influence upon hepatic function, derangement of which is considered by some investigators to be a factor in the pathogenesis of diabetes mellitus.

Among the protein foods of man, meat ranks high as a source of biologically adequate protein, capable of satisfying all protein needs. It provides generous amounts of B complex vitamins, and enhances the biologic quality of less complete proteins derived from other foods.

---

*Stare, F. J., and Thorn, G. W.: Protein Nutrition in Problems of Medical Interest, J. A. M. A. *127*:1120 (April 28) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.



AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES

TABLE 4.

Date	Rbc.	Hb.		Retics	Hemato-crit.	Indices			Wbc.	Platelets
		Gms.	Per Cent			M.C.V.	M.C.Hb.	M.C.Hb. Conc.		
Dec. 15, 1945	2.8	11.9	77						4,900	
Dec. 26, 1945	2.7	11.9	77		35	129	44	34	8,350	
Jan. 31, 1946	3.8	14.4	93		45	118	38	32		
Mar. 15, 1946	4.4	15.2	98							

for himself since childhood. Both parents were dead. He was cared for by an employed brother. The patient remained at home and alone throughout the day.

Present Illness.—Approximately six months prior to hospitalization the patient stopped eating solid foods of any kind. His diet became more and more limited until two weeks before entry when he refused all food.

Physical Examination.—Temperature was 100 F., pulse 94, respiration 24, and blood pressure 120/80. The patient was a poorly nourished, white male. He screamed constantly and had to be restrained in order to do any sort of an examination or procedure. The lower extremities were edematous and discolored. Numerous petechiae and ecchymoses were present over the legs. The thigh muscles were exquisitely tender. The teeth were carious. The gums bled easily, were purplish in color and very edematous. Evidences of traumatic nose bleeds were apparent.

Laboratory Findings.—Blood count: (see table 3). Urine was normal. Prothrombin was 100 per cent. Bleeding time was 3 minutes. Clotting time was 7 minutes. Plasma vitamin C level was 0.

Course and Treatment.—The patient was given 500 mgs. of ascorbic acid intravenously followed by 100 mgs. three times daily orally. There was prompt cessation of the hemorrhagic manifestations and disappearance of the edema. The patient improved mentally and began to eat the regular ward diet several days later. The changes in the hematologic picture are outlined in table 3.

COMMENT

The scurvy in this patient was secondary to the patient's mental defects in the sense that he had imposed upon himself dietary restrictions. A classical picture of scurvy resulted. The anemia was not profound and differed from that in the previous two cases so far as the mean corpuscular volume is concerned. The normal value may be indicative of some blood loss. The patient was observed repeatedly to traumatize his nose with his fingers to the point of bleeding. Nonetheless he made a satisfactory and relatively prompt hematologic response on ascorbic acid therapy without other medication. The bleeding continued throughout his period of observation.

M. H., an 80 years old, white female was seen repeatedly in her home beginning December 13, 1945, because of a persistent acute rhinitis, tracheitis and bronchitis.

Past History.—Noncontributory.

Present Illness.—An upper respiratory infection of some two weeks' duration had persisted in spite of the usual home remedies and apparently was becoming more severe. The patient's dietary habits had been poor for many months because of lack of appetite. Citrus fruits were not used at all. No recent change in weight had been noted.

Physical Examination.—Temperature was 100 F., pulse 86, respirations 24 and blood pressure 150/78. The patient was a well developed but very poorly nourished woman who appeared moderately ill. The skin was pale. A few petechiae were present over the shins. The eyes were blue and the hair white. The teeth were replaced by dentures. The tongue was smooth. The left nasal passagway was occluded completely. The mucous membranes of the nose and throat were red. A mucopurulent postnasal drip was present. The vibratory sense was impaired.

Laboratory Findings.—Blood count: red blood cells 2.8 by 10.6, white blood cells 4,900; Hb. 11.9 gm. or 77 per cent. Urine was normal.

Course and Treatment.—The patient was given sulfadiazine, nose drops and symptomatic therapy. A slow recovery ensued. On December 26, the patient was started on 300 mgs. of ascorbic acid daily. She remained on her usual diet. The red blood count rose and the mean corpuscular volume fell as indicated in table 4. In view of the partial recovery the patient was started on liver therapy as of February 5. The red count rose appreciably so as to return the indices to a more nearly normal range although actual determinations have not been done.

COMMENT

We believe this patient had anemia secondary to vitamin C deficiency as well as pernicious anemia.

DISCUSSION

Clinical evidences of scurvy were present in each of these four patients. The anemia improved under ascorbic acid therapy in each instance and the authors believe this improvement to have been due to the ascorbic acid. This belief is based more upon comparison of our observations with those of Vilter and others than upon any absolute proof of our own since inadequate control periods plus our failure to exclude other naturally occurring food factors from the diets invalidates to some extent our observations.

The anemias reported by us resemble in certain important respects those reported by others. Three of the four patients observed had an increased cell volume. The one patient with a normal cell volume had evidences of chronic blood loss. The mean corpuscular hemoglobin as well as the hemoglobin concentration was normal or slightly low except in the one patient who was thought to have pernicious anemia. An initial reticulocytosis was present in each of the three cases studied. This elevated count receded after the onset of therapy.

The data presented in no way contributes to any understanding of the mechanism of anemia in scurvy. It is not unreasonable to assume, however, that vitamin C may play an essential role in blood cell formation. The concentration of ascorbic acid in tissues roughly parallels their metabolic activities.[22] If one assumes that the vitamin does play an essential role in tissue metabolism it is easily under-

standable that a deficiency of this substance may be manifest more easily when increased demands upon the bone marrow are made by blood loss or other dietary deficiencies. In the absence of added stress on the blood forming tissues, vitamin C deficiency alone will ultimately produce anemia. The lack of correlation between anemia and such other observations as blood plasma levels or other manifestations of scurvy should not be disturbing at all. Similar observations have been made with regard to other manifestations of this and other vitamin deficiencies. Much will depend upon the chronicity and duration of such deficiencies.

SUMMARY AND CONCLUSIONS

Chronic vitamin C deficiency alone, or in combinations with other deficiencies such as of iron or erythrocyte maturing factor, may produce anemia which will not respond optimally until adequate ascorbic acid therapy is instituted. In the presence of obvious clinical scurvy, it is probably unnecessary to resort to iron or liver therapy until one has observed the hematologic response to ascorbic acid. Refractory anemias deserve a trial on ascorbic acid therapy if there is any reasonable suspicion of vitamin C deficiency.

600 S. Kingshighway

BIBLIOGRAPHY

1. Abt, A. F., and Farmer, C. J.: Vitamin C: Pharmacology and Therapeutics, J.A.M.A., **111**:1555, 1938.
2. Aron, H. C. S.: The Relation of Vitamin C Deficiency to Nutritional Anemia, J. Nutrition, **18**:375, 1939.
3. Baar, H.: Pathogenese und Therapic Alimentarer Kleinkinderanamien, Abhandlungen aus der Kinderheilkunde und Grenzgebieten, **16**:1, 1927.
4. Crandon, J. H.; Lund, C. C., and Dill, D. B.: Experimental Human Scurvy, New England J. Med., **223**:353, 1940.
5. Croft, J. D., and Snorf, L. D.: Cevitamic Acid Deficiency: Frequency in a Group of 100 Unselected Patients, Am. J. M. Sc., **198**:403, 1939.
6. Dunlop, D. Melville, and Scarborough, Harold: The Specific Effect of Ascorbic Acid on the Anemia of Scurvy, Edinburgh M. J., **42**:476, 1935.
7. Dyke, S. C.; Della Vida, B. L., and Delikat, E.: Vitamin C Deficiency in "Irresponsive" Pernicious Anemia, Lancet, **2**:278, 1942.
8. Farmer, C. J., and Abt, A. F.: Ascorbic Acid Content of Blood, Proc. Soc. Exper. Biol. & Med., **32**:1625, 1935.
9. Harris, H. A.: The Mistological and Radiographic Appearance of Infantile Scurvy, Quart. J. Med., **21**:499, 1927.
10. Howard, C. P., and Mills, E. S.: Scurvy, Oxford Medicine, vol. IV, pt. 2, page 263.
11. Israels, M. C. B.: Erythropoiesis in Scurvy, Lancet, (Feb. 6) 1943.
12. Jennings, G. H., and Glazebrook, A. J.: A Comparison of Clinical and Blood Pictures in Adult Scurvy, Brit. M. J., **2**:784, 1938.
13. Kadji, Laslo: Scurvy, Nelson's Loose Leaf Medicine, vol. III, p. 155.
14. Liu, S. H.; Chu, H. I.; Yu, T. F.; Hsu, H. C., and Cheng, T. Y.: Anemia in Vitamin C Deficiency and its Response to Iron, Proc. Soc. Exper. Biol. & Med., **46**:603, 1941.
15. Lozner, E. L.: Studies on Hemoglobin Regeneration in Patients with Vitamin C Deficiency, New England J. Med. **224**:265, 1941.
16. Mettier, S. R., and Chew, W. B.: The Anemia of Scurvy: Effect of Vitamin C Diet on Blood Formation in Experimental Scurvy of Guinea Pigs, J. Exper. Med. **55**:971, 1932.
17. Mettier, S. R.; Minot, G. R., and Townsend, W. C.: Scurvy in Adults, J.A.M.A. **95**:1089, 1930.
18. Minot, G. R.: The Anemias of Nutritional Deficiency, J.A.M.A. **105**:1176, 1935.
19. Parsons, L. G., and Hawkeley, J. C.: Studies in Anemias of Infancy and Early Childhood, Arch. Dis. Child. **8**:117, 1933.
20. Parsons, L. G., and Smallwood, W. C.: Studies in the Anemia of Infancy and Early Childhood: X. The Anemia of Infantile Scurvy, Arch. Dis. Child. **10**:327, 1935.
21. Rutledge, Robert C.: Personal Communication.
22. Spies, Tom D., and Butt, Hugh R.: Vitamins and Avitaminoses. Duncan's Diseases of Metabolism, W. B. Saunders Co., Philadelphia, 1942.
23. Vedder, Edward B.: Scurvy, Tice's Practice of Medicine, IX. p. 168.
24. Vilter, R. W. and Woolford, R. M.: Anemia in Eight Adult Patients with Scurvy, Proc. Cent. Soc. Clin. Res. **17**:34, 1944.
25. Wintrobe, Maxwell M.: Clinical Hematology, Lea and Febiger, Philadelphia, 1942, p. 267.
26. Witts, L. J.: The Pathology and Treatment of Anemia, Lancet, **1**:495, 1932.
27. Ziffren, S. E.; Owen, C. A.; Hoffman, G. R., and Smith, H. P.: Control of Vitamin K Therapy. Compensatory Mechanisms at Low Prothrombin Levels, Proc. Soc. Exper. Biol. & Med. **40**:595, 1939.

AUDITORY IMPAIRMENT IN RETURNED SERVICE PERSONNEL

JOHN CLAIR HOWARD, JR., M.D.
KANSAS CITY, MO.

One of the most common physical disabilities resulting from World War II is impaired hearing. The effect of war on the aural acuity of the nation has been demonstrated by Hughson[1] and other authors[2] who conservatively estimate that between one fourth and one half million men will leave the service with some degree of hearing loss. There is no doubt but that the acoustic trauma in this conflict was not only severe but more universally distributed than in any previous war. This problem of impaired hearing may well become one of the nation's leading postwar medical problems, both from a standpoint of job placement and future government or industrial compensation.

It has been my privilege to have been able to follow and study the problem of auditory impairment in World War II through "boot camp," airfield, battle zones and, finally, to become associated with the Navy's Aural Rehabilitation Center.

One of the prime factors of this paper is to urge that a complete audiometric check be given these returning veterans before they are employed where they will be subjected to more than the minimal amount of noise. An audiogram is urged or at least careful "tuning-fork" test by competent hands. There is probably no test used on the human body that is carried out as carelessly and can be more misleading than the routine spoken voice test for aural acuity.

A second factor is that cases of minimal deafness with associated tinnitus can produce a bizarre set of seemingly unrelated symptoms such as vertigo, nervousness, nausea and gastrointestinal symptoms that may completely overshadow the basic pathology of deafness. This is associated principally with the perceptive type of deafness, which is by far the most common type resulting from World War II. Compaints such as those mentioned were seen frequently in the deafened service personnel and were found to subside when their auditory acuity increased and tinnitus lessened by appropriate medical or mechanical means.

A review of the literature reveals that a good deal has been written on the etiology of deafness due to modern warfare. World War I apparently had little effect on the hearing of service men due to the shorter duration of the war and the smaller number of men involved. The modern weapons of World War II have caused more acoustic disability due to the increased amount of aural trauma. One

FACTS *ABOUT THE PREPARATION OF*



Campbell's STRAINED BABY SOUPS

Q. How are meats prepared for the soups?

A. The full protein and other nutritive values in meat are available only when the meat solids as well as the juices of meat are used. Campbell's method of comminuting the meat—superior to the "scraping" common in home use—assures that all the edible solids as well as all the juices are included. Four of the Campbell's Strained Baby Soups have a meat base: Chicken, Liver, Lamb and Beef.

Q. How early may these soups be started?

A. That depends entirely upon the individual baby and the physician's judgment. However, these soups are intended for use as early as any strained baby food. The soups are not seasoned (except for light salting) and are of smooth texture and uniform consistency. A comprehensive analysis of each soup may be had upon request to Campbell Soup Company, Camden, New Jersey.

Q. How are vegetables prepared for the soups?

A. Both the flavor and the nutritive values of vegetables naturally depend in great part upon the way they are handled and cooked. Campbell's have developed a method, based on the latest scientific knowledge, which retains the minerals and efficiently conserves the vitamins, as well as the wholesome natural flavors.

5 KINDS:

CHICKEN
BEEF
LAMB
LIVER
VEGETABLE

All in Glass Jars



Campbell's Strained Baby Soups represent fine quality . . . in ingredients . . . in care and method of cooking . . . in retention of minerals and conservation of vitamins . . . *and in good flavor.* Every resource of Campbell's Kitchens is devoted to that aim.



LOOK FOR THE RED-AND-WHITE LABEL

of the best examples of this is the airplane of World War I, which had a ceiling of ten thousand feet and a speed not in excess of 170 miles per hour with armament of light machine guns. Aviation of today is in terms of 30,000 plus ceiling, speed in excess of 400 miles per hour and armament of cannon. It has been a war of dive bombers, block busters, atom bombs and a general increase in fire power with its resulting increase of acoustic trauma. Protection to the auditory mechanism by various types of ear plugs has offered little protection and certainly has not kept pace with the increased auditory trauma of these engines of death and destruction. Drugs such as quinine, salicylates, biologicals, and antihelmitics which are known to have a deleterious effect on the hearing were the most common drugs used in the service.

Perceptive deafness, as one might expect, is the most common type of hearing impairment in the Armed Forces. Conductive deafness, incident to middle ear disease, contributed a smaller percentage. Mixed deafness was not too infrequent. In some instances the physical, bacterial and chemical trauma undoubtedly caused old or latent otosclerosis to light up with a resulting loss of aural acuity.

Impaired hearing may be divided into two types, the apparent and the latent. The former type of deafness usually is discovered during a routine examination by the whispered and spoken voice tests. This hearing loss is usually apparent to the patient himself, and he will frequently volunteer information to that effect. This type can be diagnosed early, and treatment, when necessary, instituted and allowance made for this disability in the selection of employment.

The latent type of deafness is a different story and is a potential trouble maker for both the man and his future employer.

The latent type usually is associated with a nerve impairment and resulting suppression of high tones. Audiometric studies in this type of deafness show a loss in a higher frequency just outside the conversational range which usually cannot be picked up by the whispered or spoken voice tests. If a person with this type of auditory deficiency is subjected to a noisy environment, the hearing loss

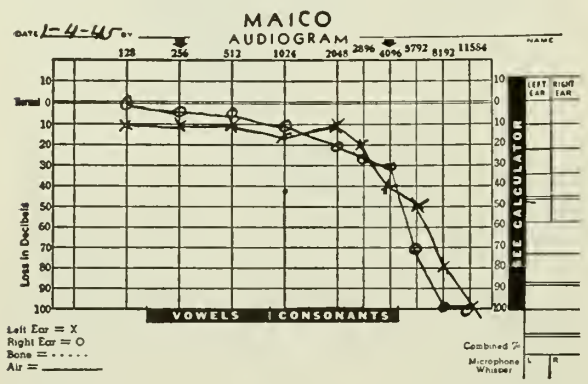


Fig. 1.

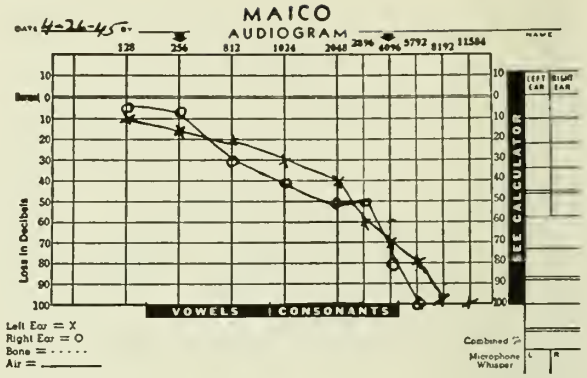


Fig. 2.

will have a tendency to spread over into the conversational range and in a short time the man, for the first time, will become aware of his disability.

A practical illustration of this latent type of deafness was brought to the author's attention when an audiogram (figure 1) on one of the recent dischargees revealed a high tone loss which did not interfere with the understanding of ordinary conversation. Despite advice to the contrary, the man took a job in an airplane factory and within four months was forced to quit because of severe tinnitus and nervousness. He still did not believe himself deaf, as he stated he could "hear better in noisy places." An audiogram at that time (figure 2) revealed a hearing loss which involved the conversational range. He had been advised by friends to sue the company for compensation as his entrance examination, required by the company, stated that his hearing, according to the spoken and whispered voice test, was normal.

Two other cases have come up recently in which there has been an abnormal loss in hearing in returned service men following a short employment in a noisy environment. It is easy to see that this question has important medical legal aspects.

The problem of the hard of hearing is one that may well thrust itself before the majority of medical practitioners in the United States, either directly or indirectly. It will be necessary for the physician to be on his guard as these cases of impaired hearing are in an age group that before the war seldom had auditory complaints.

CONCLUSION

1. It has been estimated that between one quarter and one half million veterans will return from service with some degree of hearing impairment.
2. This hearing loss may be divided into the apparent and latent types.
3. The apparent type of deafness is discovered easily by routine spoken and whispered voice tests, but the latent type shows a loss in the high frequencies which lie outside the conversational range and are most readily discovered and plotted by an audiometric test.
4. A routine audiometric test should be done on all persons who are to be employed where there

is more than minimal acoustic trauma, both for protection to the man and his employer. Cases which have this unsuspected latent type of deafness are prone to suffer severe loss in auditory acuity when subjected to noise.

1408 Professional Building.

BIBLIOGRAPHY

1. Hughson, W.: Hearing Aids, Tr. Am. Acad. Ophth. 48:180-190 (January-February) 1944; Hughson, W., and Thompson, E.: Arch. Otolaryng. 39:245-249 (March) 1944.
2. Howard, J. C., Jr.: Hearing—Post-War Problem, Ann. Otol., Rhin. & Laryng. 52:843-849 (December) 1943.

SAFETY OF MERCURIAL DIURETICS

JOHN L. HORNER, M.D.
ST. LOUIS

Recent emphasis on the possible dangers of the mercurial diuretics has induced in many physicians an unwarranted fear of using them. True it is that there should be a healthy respect for the toxicity of any drug, with the result that it be used only when there is a real need for it, and, only if there is no satisfactory less toxic substitute. However, with patients in whom the progress of decompensation has not been stemmed by digitalis, salt restriction, acidifying salts and other diuretics, the giving of salyrgan-theophylline, mercupurin and the like is an urgent and life-saving measure; one which cannot justifiably be withheld because of fear of toxicity. This is true not only during the initial hospital period of treatment but also during the follow-up treatment of those with chronically recurring edema.

The frequency of the injection of mercurial diuretic in the ambulatory patient is determined by the rate at which edema recurs, as evidenced by undue increase in weight, by the appearance of detectable pulmonary or peripheral edema or by increasing dyspnea. Obviously this treatment should be used only in those patients who fail to maintain compensation on the basic therapy of persistent digitalization, low sodium intake, acid salts and modified activities. When this fails the patient should in addition be given injections of mercurial diuretic as often as necessary. Usually one or two cubic centimeters at intervals of from three to ten days will suffice to keep the ambulatory patient comfortable and often at a light useful occupation. Periodic oral doses of these drugs in tablet form, or rectal administration in suppositories will accomplish the desired result in some patients, but a great many do not tolerate them. Furthermore a more satisfactory diuresis generally is obtained by intravenous or deep intramuscular injection, with practically no unpleasant side effects.

The earliest report of a fatal reaction to a mercurial diuretic administered parenterally appeared twenty years ago.[1] It is only in recent years, however, that there have been numerous warnings about the toxicity of these chemicals. According to Volini, Levitt and Martin,[2] who reviewed the literature in 1945, most clinical and experimental evidence points to direct action on the heart by the mercuric ion, with ventricular fibrillation the occasional result. There appears to be little evidence that dilution, a slow rate of injection, a small dosage or prior atropinization will prevent fatalities, but it is pointed out that the recorded deaths followed intravenous rather than intramuscular injection of the drug.

The actual incidence of toxic and fatal reactions is unknown. The reported instances of fatalities certainly do not represent the entire number of such accidents that have occurred. Nevertheless, in the vast majority of patients there occurs little, if any, demonstrable toxicity. In the experience of my associates and myself with approximately 10,000 injections, only one serious reaction has been encountered. This was in the case of a patient in a terminal state, with massive edema, who died a few minutes after an intravenous injection of 1 cc. of mercurial diuretic.

The case here presented is obviously not a typical one, but is reported to show that very large amounts of the drug may be well tolerated.

CASE REPORT

R. D., a 32 year old clerk, was first examined on September 10, 1942, because of palpitation, dyspnea and precordial pain on effort. He was found to be suffering from hypertensive cardiovascular disease with mild symptoms of cardiac decompensation as evidenced by pulmonary basal râles, enlarged tender liver and slight pitting edema at the ankles. He improved with digitalization, dietary salt restriction and 4 gms. of ammonium chloride daily.

On June 21, 1944, he was found to be again decompensated and did not improve with rest, more rigid salt restriction, pushing of digitalis to tolerance and increasing the dose of ammonium chloride. He was therefore given 1 or 2 cc. of mercupurin or salyrgan-theophylline approximately at ten day intervals for the next ten weeks with good diuresis and evidence of subjective and objective improvement. Then, however, despite more frequent injections, he accumulated more and more edema. The dose was increased to 3 and then 4 cc. and the number of injections to as high as six weekly. Often omitting a dose one day would result in an increase of edema to the extent of five pounds increase in weight. Undoubtedly, if the patient could have been hospitalized and his diet and actions more stringently controlled, he would not have needed such large and frequent doses. Unfortunately this was not feasible.

From September 13, 1944, to July 5, 1945, this man was given 580 cc. of mercupurin and salyrgan-theophylline intravenously, an average of almost 2 cc. daily. For no apparent reason he then improved and remained free of congestion until November 11, 1945. On that date, and on several occasions thereafter, he was given small doses of mercurial diuretic because of recurrent minimal pulmonary and peripheral edema. Death occurred on January 11, 1946, from apparent myocardial infarction following coronary thrombosis. Postmortem examination was not permitted. There had been no parenteral drug therapy for several days before this final cardiac accident.

COMMENT

The immediate toxic effects of mercury, whether ingested or given parenterally, are presumably due to the action of the mercuric ion.[3] Burrows and

Stokes[4] suggest that this may involve an allergic type of reaction, but there must be a blood level of mercury above a certain threshold concentration before signs of allergy develop, and that the threshold concentration varies with the individual patient. Apparently, the newer mercurial diuretics dissociate very slightly and hence yield little of the mercuric ion. To this property, and possibly to a very high threshold, must be attributed the fact that it was possible to give this patient 580 cc. of the drugs (containing approximately 23 grams of mercury) over a period of ten months, with no evident toxic effect. Occasionally, as much as 24 cc. of salyrgan-theophylline and mercupurin were given in one week. Yet none of the untoward reactions which occasionally follow the use of mercurial medications occurred. There was no stomatitis, colitis or circulatory collapse, and no increase in albuminuria or hematuria. During much of the time that massive decompensation existed and large doses of mercury were being injected, there were red blood cells and albumen in the urine. Yet, when improvement occurred, the urine became entirely normal. Such impairment of kidney function as was found must have been due to passive congestion, not to mercury. The electrocardiogram was definitely abnormal but did not change during or after the numerous injections of mercury.

The heroic treatment given this patient would rarely be necessary. It was given only in the hope of keeping him as comfortable as possible. The eventual improvement was wholly unexpected. There are many patients, however, who can live a useful and moderately comfortable existence with the aid of one or two doses of mercurial diuretic weekly, who would certainly die of congestive failure in a short time without them. One patient was given more than 800 injections over a period of eight years, always with good effect until the last few weeks of her life.

From experience, I must agree with White[5] that "toxic effects are very rare" with the use of the newer mercurial diuretics.

SUMMARY

A patient with massive edema due to cardiac failure was treated with 580 cc. of salyrgan-theophylline and mercupurin over a period of ten months, without toxic effects.

If other measures have failed to improve the status of an edematous cardiac patient, the mercurial diuretics should be used. Ambulatory patients can often be kept comfortable by periodic use of these drugs.

Toxic effects from the use of mercurial diuretics are extremely rare.

114 N. Taylor.

BIBLIOGRAPHY

1. Redlick, F.: Wien. Klin. Wchnschr. 38:359 (Mar. 26) 1925.
2. Volini, I. F.; Levitt, R. O., and Martin, R.: Studies on Mercurial Diuresis V. Sudden Death Following Intravenous Injection. J.A.M.A. 128:12 (May 5) 1945.
3. Goodman, L., and Gilman, A.: The Pharmacological Basis of Therapeutics. MacMillan Co., New York, 1940.
4. Burrows, A., and Stokes, W.: Mercurial Diuretics: Intolerance as Shown by Skin Sensitivity, Brit. Heart J. 7:161 (October) 1945.
5. White, P. D.: Heart Disease, 3rd Edition, p. 783, MacMillan Co., New York, 1944.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX, No. 11, November, 1946.

REHABILITATION OF THE TUBERCULOUS

Rest is fundamental in the treatment and cure of tuberculosis. The period of rest usually lasts for many months and it is during this time that the rehabilitation of the patient should begin. This may mean the planning of a completely new mode of life. Almost always it also includes some kind of productive work in order to earn a living. Since rest, with only a limited amount of physical effort, is necessary to regain health and to continue in health, the new life must bring to the patient the maximum of financial return with a minimum amount of physical effort.

This can be accomplished most easily by improving the patient's knowledge and education. The fact that a patient is lying in bed resting his body does not mean that his mind is at rest. It is natural for him to worry about the future, and now is the time for rehabilitation to begin. If the mind is occupied with constructive thinking, the patient's physical condition improves more quickly, and a plan for his future may be evolved. Constructive reading and study are part and parcel of rehabilitation.

A young laborer admitted to the hospital with tuberculosis came to realize he would never again be able to do hard physical labor. He was intelligent and cooperative, so he studied, read and took a correspondence course while in bed. Later when his disease was cured he was able to qualify as boss of the laborers and soon afterwards he became a contractor.

Surprisingly many people have a latent unrecognized ability which the rest period brings out. As they relax they think and from this comes creative impulses. Many of the world's geniuses have been men and women with tuberculosis. Is the genius due to some mysterious action of the tubercle bacillus? Or is it due to the rest and the opportunity to think? Scientists are uncertain, but it would seem that the long enforced period of relaxation and the consequent opportunity to think, to meditate and to take stock of one's abilities might be the real answer.

The mind continues to function while the body is resting, in spite of all efforts to keep it quiet. If it is directed toward constructive thinking, a fuller, happier life will result. The more informa-

As easy as . . .

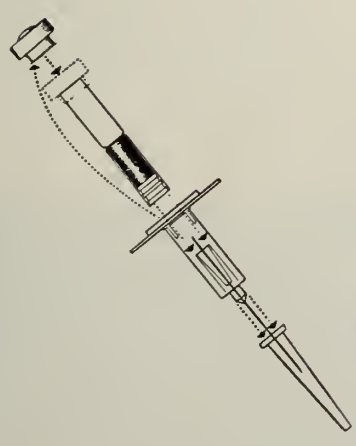


. . . . .



Perhaps not quite . . . but you will find it almost as simple as that to prepare for an injection of Abbott's Romansky formula of penicillin calcium in oil and wax when you use a new B-D* Disposable Cartridge Syringe. No further sterilization of syringe and needle, no drying, and no danger of complications from traces of water. No difficulty of drawing the heavy suspension from a bulk container and no wasted medicament. And, furthermore, no bothersome cleaning of needle and syringe afterwards. *Just throw them away.* Each set consists of a disposable plastic syringe with an affixed standard 20-gauge, 1½-inch stainless steel needle and a glass cartridge-plunger containing a 1-cc. dose of 300,000 units of penicillin suspended in peanut oil and beeswax. It is complete, compact, easy to carry and ready for immediate use. Always a new, sharp needle and an accurate dose. Supply sometimes doesn't meet the heavy demand, but we're making more sets every day.
ABBOTT LABORATORIES, North Chicago, Illinois

*T. M. Reg. Becton, Dickinson & Co.



Abbott's Penicillin in Oil and Wax

(ROMANSKY FORMULA)

with the B-D disposable cartridge syringe

DRINK

Coca-Cola

REG. U. S. PAT. OFF.



You trust
its quality

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex
Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

JOSEF A. KINDWALL, M.D.
CARROLL W. OSGOOD, M.D.
WILLIAM T. KRADWELL, M.D.
BENJAMIN A. RUSKIN, M.D.
LEWIS DANZIGER, M.D.
RUSSELL C. MORRISON, M.D.
E. MADISON PAINE, M.D.
H. GLADYS SPEAR, M.D.
ARTHUR J. PATEK, M.D.

G. H. SCHROEDER, *Business Manager*

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



tion and intelligence a person has, the more valuable a worker he becomes. There is no reason why the thoughtful patient should not gain from his enforced rest. Incidentally his future health is protected by rehabilitation because he has learned to utilize his mind and to conserve his physical strength. In many tuberculosis hospitals, courses in high school subjects and reviews in elementary studies are given. These are considered as important as food, rest and surgical treatment.

Occupational therapy focused on arts and crafts is not entirely adequate. For, although it keeps the patient's hands and mind occupied while in the hospital, it brings little financial return, and rarely leads to a future occupation for the patient. Today we speak of vocational therapy, which means treatment of the patient's mind through preparing him for a vocation which he can utilize when he is ready to return to the competitive world.

Men and women with tuberculosis do not differ essentially from men and women who are not ill. But their disease imposes upon them restrictions and problems from which the well man is free. It is with these problems and restrictions that the rehabilitation of the tuberculous deals.

Rehabilitation is a process of education by means of which the patient arrives at the best possible adjustment to his handicap. While this adjustment may be achieved alone, it is one which is achieved more easily with help and direction.

There are four aspects of the rehabilitation of the tuberculous: medical, psychological, social and economic. On the medical side, the patient should have an intelligent knowledge of tuberculosis and of his own disease. He should know that even a small amount of infection demands a great amount of care. He should learn about curing, and how to cooperate with the nurses and doctors. Although he wishes to be active as soon as possible, he must learn that the physician alone can decide when his rehabilitation is to start.

The psychological aspect is perhaps the most difficult and one of the most important. The patient learns that tuberculosis is a recurrent disease and this usually frightens him. He worries over possible ostracism because people fear tuberculosis. He is separated from normal daily contacts. For these reasons this period should not be empty of incentive, plans and hopes. Bed rest by itself will not produce relaxation, nor is there any speedy road to recovery. It requires an endless amount of courage, perseverance and understanding.

The social problems will range from the boy or girl required to leave school or college to the family losing its wage earner; and from the ill worker who believes his job too good to leave to the patient willing to go to the hospital but forced to remain on a long waiting list for a bed.

Lessened earning power is costly not alone to the individual but also to the community. Hospitals bear a share of the costs of the illness, but society as a whole pays the bills. Skill in any line of work grows rusty during long periods of illness, and this human asset is one that business and the community can ill afford to lose.

Rehabilitation works with the individual and with the community to convert ill-founded fear into well-founded hope. It works under medical advice and on the basis of total physical, mental and emotional capacities, building a practical program of activity. It makes use of all available resources toward an eventual life plan compatible with the patient's health, interests, abilities and ambitions. The community must be taught that although rehabilitation does cost money, the lack of it costs more, not alone in illness, but in dollars and cents.

Rehabilitation of the Tuberculous, H. St. John Williams, M.D., New York State Journal of Medicine, March 15, 1946.

BOOK REVIEW

MEDICINE IN INDUSTRY. By Bernhard J. Stern, Ph.D., Lecturer in Sociology, Columbia University, Visiting Professor of Sociology, Yale University. New York. The Commonwealth Fund. 1946. Price $1.50.

This is one of a series of monographs issued under the auspices of the Committee on Medicine and the changing order of the New York Academy of Medicine, as a contribution to contemporary thought on important questions in the general medical and health field.

This monograph traces in broad perspective the social, economic, legal and professional setting within which industrial medicine has developed. It delineates the prevailing disastrous rates of industrial disability and the limited extent of preventive services in industry. Recent developments in health and insurance programs are appraised.

The problems of the industrial handicapped are outlined. The author concludes that the findings which emerge "offer grave challenges to the public and to the profession, not merely to expand knowledge in the field of industrial medicine, but to apply more extensively the vast body of knowledge already available in the interests of the health and welfare of the nation."

This monograph is essentially a source book and not advised for general scientific reading. Those members of the profession, who are engaged in industrial practice, and particularly those called on to advise federal or state planning, will benefit by the book's clear, concise summaries of existing situations and by the monograph's excellent bibliography. G. P.

THE MALE HORMONE. By Paul deKruif. New York: Harcourt, Brace and Company. 1945. Price $2.50.

This is another of Paul deKruif's books written for the laity in his usual inimical manner and facile literary style. The author reviews the early work in obtaining and later synthesizing testosterone and the animal and human experiments conducted to test its behavior and action. The criticisms of Osler, Warthin and other medical authorities for not directing their scientific interests toward the field of male hormone therapy and foreseeing its usefulness are entirely unwarranted. The animadversions directed at the medical profession for its reluctance in accepting the drug until sufficient experimental evidence had accumulated to establish its actions, dosage and indications for use are seemingly unjust. In spite of the author's caution to the contrary, the reader is left with the impression that testosterone is a "cure all" for the gamut of diseases of the ageing male. V. B. B.

Checklist of Recent and Important MOSBY Publications

Order Now for Christmas!

Banyai's THE PNEUMOPERITONEUM TREATMENT—375 pages, 78 illustrations. Price, $6.50

Clarke's FACIAL AND BODY PROSTHESIS—200 pages, 75 illustrations. Price, $5.00

Crossen & Crossen's SYNOPSIS OF GYNECOLOGY—3rd Ed. 253 pages, 132 illustrations, 3 color plates. Price, $3.00

Hardy's SYNOPSIS OF SURGICAL DISEASES OF THE ABDOMEN—2nd Ed. 526 pages, 100 illustrations. Price, $5.00

Hunt's DISEASES AFFECTING THE VULVA—2nd Ed. 211 pages, 36 illustrations, 18 color plates. Price, $5.00

John's DIABETES—A CONCISE PRESENTATION—300 pages, illustrated. Price, $3.25

Karnosh & Zucker's HANDBOOK OF PSYCHIATRY—302 pages, 40 illustrations. Price, $4.50

Key & Conwell's MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS—4th Ed. 1322 pages, 1316 illustrations. Price, $12.50

Kleiner's HUMAN BIOCHEMISTRY—550 pages, 75 illustrations, 5 color plates. Price, $6.00

Main's SYNOPSIS OF PHYSIOLOGY—341 pages, 21 illustrations. Price, $3.50

Pottenger's SYMPTOMS OF VISCERAL DISEASES—6th Ed. 442 pages, 87 illustrations, 10 color plates. Price, $5.00

Sachs' THE CARE OF THE NEUROSURGICAL PATIENT—268 pages, 177 illustrations, including 2 in color. Price, $6.00

Sadler's MODERN PSYCHIATRY — 896 pages. Price, $10.00

Tassman's THE EYE MANIFESTATIONS OF INTERNAL DISEASES — 2nd Ed. 585 pages, 243 illustrations, including 24 in color. Price, $10.00

Thewlis' THE CARE OF THE AGED (GERIATRICS)—5th Ed. 504 pages, 67 illustrations. Price, $8.00

Titus' MANAGEMENT OF OBSTETRIC DIFFICULTIES—3rd Ed. 1000 pages, 426 illustrations, 8 color plates. Price, $10.00

Use Coupon to Order

THE C. V. MOSBY COMPANY
3207 Washington Blvd.
St. Louis 3, Mo.

MJ 11/46

Gentlemen: Send me the following book(s).....

.....

....Attached is my check. ....Charge my account.

Name .....

Address .....

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

NOVEMBER, 1946

EDITORIALS

VETERANS OPPOSE COMPULSORY HEALTH INSURANCE

The following resolution was unanimously approved and passed at the Twenty-Eighth National American Legion Convention, in San Francisco, October 4, 1946.

RESOLUTION

WHEREAS, Veterans who have served in the armed forces now have available to them hospital and medical care provided by the United States Government; and

WHEREAS, There are countless voluntary health insurance plans now being offered by the physicians and the insurance companies; and

WHEREAS, Proposed plans of compulsory health insurance would increase the tax burden and bring about regimentation of the medical profession; and

WHEREAS, All forms of compulsion are repugnant to our American way of life since our liberties and opportunities would be circumscribed; now, therefore be it

Resolved, That the National Assembly of the American Legion hereby expresses its opposition to compulsory health insurance.

CONTRIBUTIONS

During the fall of the year several legitimate and worth-while organizations collect moneys to continue the work which they carry on for the welfare of the people. The benefit can be to both the recipient of help and those who give since the giver can know that that which he gives goes into proper channels. Fall is the time of year also when most illegitimate appeals are made, although they have no definite season.

The Better Business Bureau of St. Louis warns against the solicitations which are unworthy of public support and offer three rules to follow in protecting against such solicitation schemes: (1) Get a fact report on any unknown charity or commercial solicitation before giving. (2) Be exceedingly careful about appeals coming from outside the community. (3) Never give money, purchase tickets or buy advertising space under threat or intimidation; report such to the Better Business Bureau.

The Association office will be glad to check with the Better Business Bureau on solicitations which are made to physicians by organizations unknown to them.

HEART DISEASE

Interest in the control of heart disease currently is being enhanced by the efforts of many professional and lay groups. This attention to heart ailments has long been warranted and the public is becoming more acutely aware of cardiac hygiene than ever before.

During the last third of a century, the improvement in mortality from heart disease was most pronounced in the younger age groups and decreased progressively with advance in age. The death rate from diseases of the heart and arteries, corrected for the aging of the population, dropped virtually 30 per cent between 1911 and 1915 and 1940 and 1944, according to experience among the industrial policyholders of the Metropolitan Life Insurance Company. This reduction in mortality from the principal cardiovascular-renal diseases has been marked particularly among white females, 37 per cent in the mentioned years. Among males, the decrease in mortality was 25 per cent.

However, the American Heart Association, Inc., estimates that there are more than 4,000,000 people in the United States today who have heart disease. Diseases of the heart and blood vessels, including cerebral hemorrhage, accounted for 575,000 deaths in 1944. Fatalities from the five other leading causes of death in 1944 were: cancer, 171,000; accidental deaths, 95,000; nephritis, 92,000; pneumonia, 64,000; tuberculosis, 55,000, In addition to accounting for more fatalities than these five causes combined, heart diseases are responsible for an annual loss of more than 100,000,000 work days.

The initiation of a nationwide program of public education and information on diseases of the heart was announced recently by the American Heart Association, Inc. The association's program will call for emphasis on educational work with schools, parent-teachers' associations and other groups concerned with children because of the importance of rheumatic fever and heart disease. Dr. A. Graham Asher, Kansas City, Chairman of the Committee on Study of Cardiac Diseases of the Missouri State Medical Association, is a director of the American Heart Association.

The Metropolitan Life Insurance Company also is conducting a special campaign on heart disease during the fall and winter months. The company's



Typical of today's accelerated production lines in our Chicago plant is this lot of x-ray units, in the final stages of assembly and inspection.

It's the well-known Model R-39, resuming its characteristic role as the shockproof, all-round diagnostic unit which, because it is so compactly designed, almost invariably solves the problem of limited floor space. That's why you so often see it in the offices of specialists, in private clinics, and in many hospitals.

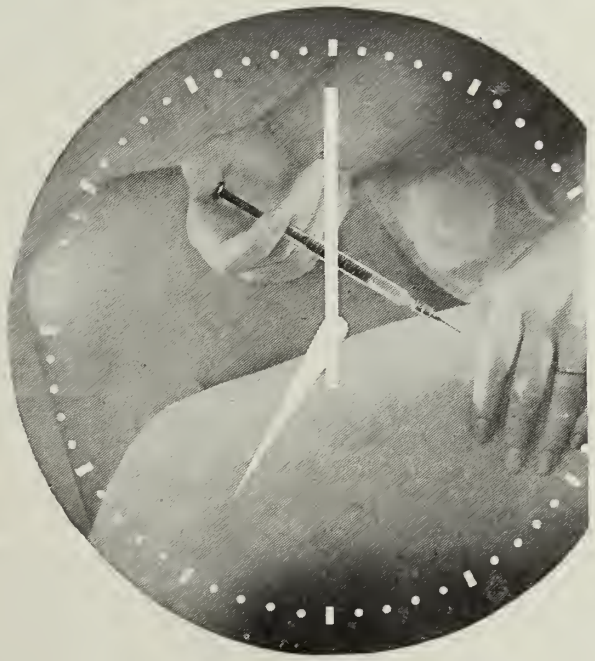
Here's the power you need (100 ma and 85 kvp) for radiographic and fluoroscopic diagnosis; a double-focus genuine Coolidge tube which serves both over and under the table; unusual flexibility for positioning the patient horizontally, angularly, or vertically; and an operator's control so refined and yet so simple to operate that you can consistently produce radiographs of the preferred diagnostic quality.

Model R-39 may well prove ideally adaptable to your specific x-ray needs at this time. Why not write for full particulars today. Ask for Publication 2567. Address General Electric X-Ray Corporation, 175 W. Jackson Blvd., Chicago 4, Ill.

GENERAL ELECTRIC X-RAY CORPORATION







a switch in time

A SWITCH to 'Wellcome' Globin Insulin with Zinc can often save the annoyance of a second or third daily insulin injection—for in many cases the patient's needs can be supplied with *only one injection a day* of this unique intermediate-acting insulin. Three distinct steps provide the welcomed change-over:

1. THE INITIAL CHANGE-OVER DOSAGE: The first day, 30 minutes or more before breakfast, give a single dose of Globin Insulin, equal to ½ the total previous daily dose of protamine zinc insulin or of protamine zinc insulin combined with regular insulin. The next day, dose may be increased to ⅔ former total.

2. ADJUSTMENT TO 24-HOUR CONTROL: Gradually adjust the Globin Insulin dosage to provide 24-hour control as evidenced by a fasting blood sugar level of less than 150 mgm. or sugar-free urine in the fasting sample.

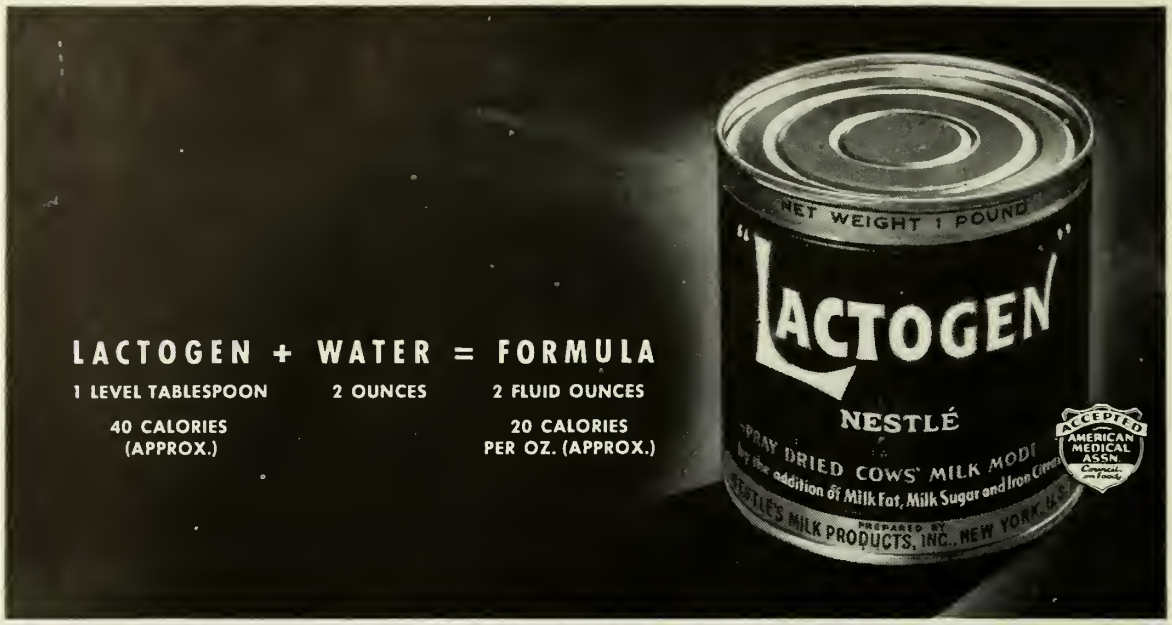
3. ADJUSTMENT OF DIET: Simultaneously adjust carbohydrate distribution of diet to balance insulin activity; initially 2/10, 4/10 and 4/10. Any midafternoon hypoglycemia may usually be offset by 10 to 20 grams carbohydrate at 3 to 4 p.m. Base final carbohydrate adjustment on fractional urinalyses.

Most mild and many moderately severe cases may be controlled by *one daily injection of 'Wellcome' Globin Insulin with Zinc.* Vials of 10 cc.; 40 and 80 units per cc. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Pat. 2,161,198. Literature on request.

'Wellcome' Trademark Registered

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.



Successful in Infant Nutrition



No advertising or feeding directions, except to physicians. For feeding directions and prescription pads, send your professional blank to

Nestlé's Milk Products, Inc.

155 EAST 44TH ST., NEW YORK, 17, N.Y.

more than 20,000 field representatives, in cooperation with official and voluntary agencies, will reach the homes of millions of policyholders with a recently published pamphlet, "Your Heart," developed in cooperation with the American Heart Association. A lay educational film on heart disease also is being prepared.

NEWS NOTES

Dr. James R. McVay, Kansas City, addressed the National Clinic Managers' Association which met at Hot Springs, Arkansas, on September 24. His subject was "Nation-wide Voluntary Prepayment Plans."

Dr. R. E. Schlueter, St. Louis, attended a meeting of the Honorary Consultants to the Army Medical Library in Washington, D. C., on October 4 and 5.

The Southeast Missouri Medical Association held its seventieth annual meeting at Cape Girardeau on October 9. Appearing on the program were Drs. S. M. Bailey, Malden; D. B. Elrod, O. J. Gibson and Paul B. Nussbaum, Cape Girardeau; Albert Estes, Jackson; Mr. Raymond McIntyre, St. Louis, and Dr. A. C. Magill, Cape Girardeau.

Dr. E. Lee Dorsett, St. Louis, has been appointed a member of the committee to prepare the program of the Third American Congress on Obstetrics and Gynecology to be held in St. Louis, September 8 to 12, 1947.

The Study of Child Health Services of the American Academy of Pediatrics is now being conducted throughout the United States, and has been under way for six months in Missouri. At the present time the material is coming in quite well but even more replies are needed. To date the physicians have sent in 60 per cent of the schedules mailed to them. The dentists have returned 58 per cent. It should be emphasized that a completed schedule is desired from every physician and dentist in the state whether or not he sees any children in his practice. The plan is to terminate the collection of data in Missouri before the first of the year. Every physician and dentist is urged to cooperate so that the final returns will be close to 90 per cent.

DEATHS

Shryman, Ferdinand, M.D., Concordia, a graduate of the Beaumont Hospital Medical School, St. Louis, 1896; member of the Lafayette County Medical Society, aged 79; died August 25.

Mankopf, Bert Edward, M.D., Washington, a graduate of the Marion-Sims College of Medicine, St. Louis, 1897; member and former president of the Franklin County Medical Society; aged 72; died August 26.

Rutledge, John E., M.D., Festus, a graduate of the Keokuk Medical College, 1896; member of the Jefferson County Medical Society; aged 75; died August 26.

Thurmon, Josiah D., M.D., St. Louis, a graduate of Barnes Medical College, St. Louis, 1904; member of the St. Louis Medical Society; aged 76; died August 26.

Wallace, Charles Hodge, M.D., St. Joseph, a graduate of the Bellevue Hospital Medical College, New York, 1883; former President of the Missouri State Medical Association; honor member of the Buchanan County Medical Society; aged 88; died August 27.

Caldwell, Charles Wright, M.D., Slater, a graduate of the Beaumont Hospital Medical School, St. Louis, 1900; member and former president of the Saline County Medical Society; aged 73; died September 4.

Hull, Egbert R., M.D., Camden Point, a graduate of the University Medical College of Kansas City, 1907; honor member of the Platte County Medical Society; aged 81; died September 5.

Roselle, Thomas Andrew, M.D., Palmyra, a graduate of the Hospital College of Medicine, Louisville, 1903; member of the Marion-Ralls County Medical Society; aged 70; died September 7.

Pickel, John W., M.D., Kirkwood, a graduate of the College of Physicians and Surgeons of Baltimore, 1890; member of the St. Louis County Medical Society; retired; aged 91; died September 13.

Wyatt, Charles Henry, M.D., Kansas City, a graduate of the University of Arkansas School of Medicine, Little Rock, 1931; member of the Jackson County Medical Society; aged 42; died September 15.

Smith, J. Campbell, M.D., Pasadena, California, a graduate of the University of Maryland, Baltimore, 1895; honor member of the St. Louis Medical Society; aged 86; died September 18.

Chambers, James Quarles, Sr., M.D., Kansas City, a graduate of the University of Pennsylvania, Philadelphia, 1899; honor member of the Jackson County Medical Society; aged 76; died September 25.

Presnell, Ural A. V., M.D., Kennett, a graduate of Barnes Medical College, St. Louis, 1904; member and former president of the Dunklin County Medical Society; aged 66; died October 3.

Twyman, George Thomas, M.D., Independence, a graduate of Rush Medical College, Chicago, 1915; member of the Jackson County Medical Society; aged 58; died October 4.

MISCELLANY

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for November and December, to which all members are invited, beginning at 1:00 p. m. each clinic, follows:

November 1: Gynecologic and Genitourinary.
November 6: Miscellaneous.
November 8: Breast.
November 13: Skin.
November 15: Cervix.
November 20: Gastrointestinal.
November 22: Head and Neck.
November 27: Skin.
November 29: Bone and Lymphoma.
December 4: Miscellaneous.
December 6: Gynecologic and Genitourinary.
December 11: Skin.
December 13: Breast.
December 18: Gastrointestinal.
December 20: Cervix.
December 25: No clinic. Holiday.
December 27: Head and Neck.

SOCIETY PROCEEDINGS

FIRST COUNCILOR DISTRICT

H. E. PETERSEN, ST. JOSEPH, COUNCILOR
Caldwell-Livingston, Grundy-Daviess, Carroll and Linn County Medical Societies

The Caldwell-Livingston, Grundy-Daviess, Carroll and Linn County Medical Societies held a meeting at Chillicothe at the Strand Hotel on September 24. The Caldwell-Livingston County Medical Society acted as host at the meeting. The meeting which was arranged primarily to discuss the possibility of frequent meetings of these societies was arranged in collaboration with the office of the Missouri State Medical Association.

Dr. Everett Sugarbaker, Columbia, spoke on "Cancer, Its Behavior and Treatment."

Dr. H. E. Petersen, St. Joseph, Councilor of the First Councilor District, spoke on "The Job of Organized Medicine in Missouri."

Mr. T. R. O'Brien, Executive Secretary of the Association, spoke briefly on legislation and introduced Mr. Randall Kitt, Chillicothe, State Representative from Livingston County in the Missouri House of Representatives and Floor Leader of the House. Mr. Kitt addressed the meeting briefly regarding legislation.

Mr. Raymond McIntyre, Field Secretary of the Association, discussed "Meetings for Rural Medical Societies."

The President of the Caldwell-Livingston County Medical Society, Dr. G. W. Carpenter, presided. Another meeting of the group of counties was discussed and all were enthusiastic about it. The date of the next meeting is November 26 at Chillicothe.

Joseph Conrad, M.D., Secretary.

SECOND COUNCILOR DISTRICT

W. F. FRANCKA, HANNIBAL, COUNCILOR
Linn County Medical Society

The Linn County Medical Society met at the office of Dr. Roy Haley, Brookfield, on September 5. The meeting was preceded by a dinner.

Dr. Howard B. Goodrich, Hannibal, President of the Association, spoke on "Problems of the Missouri State Medical Association."

Dr. W. F. Francka, Hannibal, Councilor of the Second District, discussed "Hyphenation of Small Medical Societies."

Mr. T. R. O'Brien, Executive Secretary of the Association, and Mr. Ray McIntyre, Field Secretary of the Association, also spoke briefly.

The following were present at the meeting: Drs. Haley, S. T. Brownfield, M. H. Rhoades, Guy A. Koon, R. W. Bohnsack, J. H. Lucas, Brookfield; C. A. Campbell, B. B. Hurst, Marceline; E. F. Weir, Meadville; J. P. Cantwell, Bucklin.

Roy Haley, M.D., Secretary.

EIGHTH COUNCILOR DISTRICT

WALLIS SMITH, SPRINGFIELD, COUNCILOR
Barry-Lawrence-Stone County Medical Society

The Barry-Lawrence-Stone County Medical Society had its first regular fall meeting with a dinner at the Roaring River State Park Hotel, Cassville, September 7. Fifteen members from the tri-county area attended. In addition to the regular members, guests included Dr. Wallis Smith, Springfield, District Councilor, and Dr. D. L. Yancey, Springfield.

Special guest and speaker of the evening was Senator Raymond Williams, majority floor leader of the State Senate. Senator Williams, introduced by Dr. Wallis Smith, gave an interesting and instructive talk on practical politics as it should concern the State Medical Association. It was the opinion of the membership that Senator Williams is beginning a useful, practical and intelligent political service to his constituents.

Dr. Smith gave an interesting résumé of his recent meeting with the National Physicians Committee. He particularly commended Senator Donnell for his stand against the Wagner-Murray-Dingell bill.

After a short business session, during which Dr. Mansell B. Holmes was unanimously voted into the Society, the meeting adjourned.

George W. Newman, M.D., Secretary.

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR
Phelps-Crawford-Dent-Pulaski County Medical Society

The Phelps-Crawford-Dent-Pulaski County Medical Society met in Rolla on August 30 with twenty-five members present.

Meeting new physicians and discussing medical problems were enjoyed by all while a nice meal was being served at the Pennant Restaurant.

The scientific program was opened by O. F. Bradford, M.D., Columbia, who spoke on the subject, "The Postwar Child." In this lecture Dr. Bradford brought out the mental and dietetic effects of the late war upon children whose parents were both helping to win the war, the mother often in overalls and working in some munition factory while the father did his part in the Army or Navy.

The second guest speaker was J. A. del Regato, M.D., Columbia, who is in charge of roentgen therapy at the Ellis Fischel State Cancer Hospital, his subject being "Cancer of the Uterus." This lecture was illustrated by lantern slides and made especially interesting and instructive to everyone. Dr. del Regato has had special training in roentgen therapy in Paris as well as in this country and is in a position to know the results to be expected from roentgen ray treatment of cancer in different parts of the body. He was able to point out many fallacies and give more light and encouragement to those physicians in the medical field who are constantly on the alert to diagnose early cancer and see that his patient is placed in the best of competent hands for treatment.

G. E. Joseph, M.D., President.

South Central Counties Medical Society

The South Central Counties Medical Society met at the ElPatio Hotel in Cabool, September 27, for dinner at 7:00 o'clock with the following physicians present: Drs. J. R. Mott, Hartville; J. A. Fuson, Mansfield; L. T. VanNoy, Norwood; R. A. Ryan, R. W. Denney and A. C. Ames, Mountain Grove; Garrett Hogg, Jr., Cabool; E. C. Bohrer and R. H. Smith, West Plains; Kenneth Glover, Mount Vernon.

The minutes of the last meeting were read and approved and letters were read announcing a course in forensic medicine at Washington University School of Medicine, October 4 and 5, and a tumor seminar at the Ellis Fischel State Cancer Hospital, Columbia, on October 26 to which members were invited.

Dr. Glover read a paper on "Brucellosis" in which he went extensively into the diagnosis by laboratory methods and treatment with biologicals. He was listened to attentively and given a hearty vote of thanks.

Dr. Smith then presented a message from Hermon Schmidt of the Veterans office at West Plains expressing a wish to meet with the Society to explain the arrangements made for rendering medical treatment to veterans. A vote was taken inviting Mr. Schmidt to the next meeting which is to be at Mountain Grove on October 18.

A. C. Ames, M.D., Secretary.

BOOK REVIEWS

FACIAL PROSTHESIS. By Arthur H. Bulbulian, M.S., D.D.S., F.A.C.D., Director, Museum of Hygiene and Medicine, The Mayo Foundation, Rochester, Minn. 241 pages with 202 illustrations. Philadelphia: W. B. Saunders Company, 1945. Price $5.00.

This 241 page book is well written and deals with a subject that is not as familiar to those dealing with cases of deformity about the face as possibly it should be. The volume appears at a time when both the general public and the profession have become aware of the need for proper care of deformities of the face of whatever origin. Although the procedure of choice in most cases is plastic reconstruction with living tissue, a prosthetic restoration adds much to the mental comfort and economic opportunities of the patient in those selected cases in which plastic surgery is contraindicated.

This book serves as an excellent reference for the various materials available for prosthetics and demonstrates the advantages and disadvantages of rigid versus pliable materials. A detailed description of the steps of the technic from taking the impression to the final making of the prosthesis is given, and a particularly good description is presented of a three piece mold.

The 202 illustrations have been well chosen in that the more difficult types of cases are presented in a step by step sequence that demonstrates the various obstacles that are encountered.

Textbooks of plastic surgery always pass over this subject in a hurried and sketchy manner and this text presents the information in a comprehensive manner.

J. H. G.

MANUAL OF SURGICAL ANATOMY. Prepared under the auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. By Tom Jones and W. C. Shepard. Military Surgical Manual. Philadelphia: W. B. Saunders Company. 1945. Price $5.00.

This small book is a pictorial atlas patterned after drawings in "Gray's Anatomy."

The book is intended to be a brief pictorial review of essential surgical anatomy as special surgical considerations are employed.

J. J. C.

NURSING IN COMMERCE AND INDUSTRY. By Bethel J. McGrath, R.N. For the National Organization for Public Health Nursing. New York. The Commonwealth Fund. 1946. Price $3.00.

To anyone interested in a comprehensive study of industrial nursing this would be a book to select. The beginning is devoted to an interesting history of the development of industrial nursing in the United States. Problems related to the nurse and her place in the industrial organization as related to other departments are discussed. Illustrations and diagrams of the physical facilities for the nurse are shown. There is considerable space devoted to the discussion of health education, health hazards, personal problems of the workers, and the special disease conditions which may be commonly seen among employees. The workman's compensation laws are summarized and there are associated recommendations for financial assistance to employees. The author also has included some standing orders for industrial nurses. This appears to be a complete and reliable source of information on this subject.

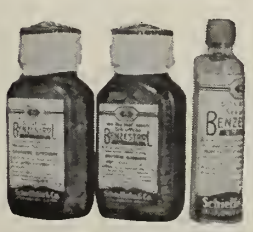
F. M. C.

Schieffelin
BENZESTROL
(2, 4-di (p-hydroxyphenyl) -3-ethyl hexane)

An Efficient Estrogen

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

COUNCIL ACCEPTED,



Literature and Sample on Request

Schieffelin BENZESTROL is described in clinical reports as a well tolerated and effective estrogen. It is indicated in all conditions in which estrogenic substances have proved beneficial.

Schieffelin BENZESTROL offers an economical means of administering estrogenic hormone therapy. It is available for oral use in tablets of 0.5, 1.0, 2.0 and 5.0 mg. strengths; for injection in oil solution containing 5.0 mg. per cc. in 10 cc. rubber capped vials; and for local administration in ellipsoid shaped vaginal tablets of 0.5 mg. potency.

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 Cooper Square New York 3, N. Y.

AT HOME OR AWAY

SPOT TESTS

SIMPLIFY URINALYSIS

NO TEST TUBES • NO MEASURING • NO BOILING

Diabetics welcome "Spot Tests" (ready to use dry reagents), because of the ease and simplicity in using. No test tubes, no boiling, no measuring; just a little powder, a little urine—color reaction occurs at once if sugar or acetone is present.

Galatest
FOR DETECTION OF SUGAR IN THE URINE

Acetone Test (DENCO)
FOR DETECTION OF ACETONE IN THE URINE

THE SAME SIMPLE TECHNIQUE FOR BOTH

1. A LITTLE POWDER



2. A LITTLE URINE

COLOR REACTION IMMEDIATELY



A carrying case containing one vial of Acetone Test (Denco) and one vial of Galatest is now available. This is very convenient for the medical bag or for the diabetic patient. The case also contains a medicine dropper and a Galatest color chart. This handy kit or refills of Acetone Test (Denco) and Galatest are obtainable at all prescription pharmacies and surgical supply houses.

Accepted for advertising in the Journal of the A.M.A.

WRITE FOR DESCRIPTIVE LITERATURE

THE DENVER CHEMICAL MANUFACTURING COMPANY, INC.
163 Varick Street, New York 13, N. Y.



When a Life
Hangs in the Balance . . .

. . . and progressive wasting increases the gravity of the prognosis, depletion of body proteins can be prevented. Parenamine —parenteral source of the indispensable and other amino acids— provides the elements of protein nutrition . . . sustains the regenerative processes essential to recovery.

Parenamine

Amino Acids Stearns

PARENTERAL

For Protein Deficiency



PARENAMINE is a sterile 15 per cent solution of amino acids containing all known to be essential for humans, derived by acid hydrolysis from casein and fortified with pure *dl*-tryptophane.

INDICATED in conditions of restricted intake, faulty absorption, increased need or excessive loss of proteins such as in pre- and postoperative management, extensive burns, delayed healing, gastro-intestinal disorders, et cetera.

ADMINISTRATION may be intravenous, intrasternal or subcutaneous.

SUPPLIED as 15 per cent sterile solution in 100 cc. rubber-capped bottles.

Reprints and complete clinical data will gladly be sent on request.

Frederick Stearns & Company
Division

DETROIT 31, MICHIGAN

NEW YORK KANSAS CITY SAN FRANCISCO WINDSOR, ONTARIO SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

Trade-Mark *Parenamine* Reg. U. S. Pat. Off.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

THE PRESIDENT'S MESSAGE

The annual fall executive board meeting of the Woman's Auxiliary was held in Jefferson City at the Missouri Hotel on September 19. At this meeting plans were discussed to carry on a full program in Auxiliary work. All the chairmen have their work planned and sent out to the county auxiliaries.

We are glad to announce the subject of our fifteenth annual health essay contest, "What Can Our Community Do to Improve Its Health?" The rules of this contest are now in the hands of every public, parochial and private high school in Missouri.

Many of our county auxiliaries have obtained new members, so we feel sure we will have more than a thousand members by the time of our spring meeting. Mrs. John O'Connell, organization chairman, is working hard to organize new counties. We want every doctor's wife given a chance to be a member of the Woman's Auxiliary.

Hygeia plays an important part in health education. Let every member help Mrs. Carron make this our best year in *Hygeia* subscriptions.

Do you subscribe to the *National Bulletin?* It is valuable and essential for progressive auxiliary work.

Mrs. W. E. Koppenbrink, President.

Recommendations for Organizing a New County

1. Arrange a program covering Auxiliary work and, if possible, secure an inspirational speaker from the State Board of the Women's Auxiliary.
2. Invite doctors' wives from adjoining counties to this meeting and follow through by assisting them in organization if possible.

Steps to Be Taken in Organization

1. Secure permission and active cooperation of the medical society. Official action should be taken by them before an organization is attempted. County organizer should be appointed by the county medical society.
2. Arrange a meeting and invite an officer or chairman from the State Medical Auxiliary to be present to explain the purpose and ideals of the Auxiliary. Elect temporary chairman and constitution committee.
3. Call organization meeting, adopt constitution, elect officers, appoint chairman of committees, have advisor appointed by medical society, notify state officers and proceed to carry out state and national program as the local organization develops.

Now is the time to put your energy to work on those neighboring counties who are not organized, but should come into the fold. If you succeed in organizing a county, you will receive one of the biggest thrills of your life. Take it from one who knows.

Mrs. Harry M. Gilkey, Co-Chairman of North Central Region of Organization.

Hygeia

The eleventh annual Auxiliary *Hygeia* Contest is on. The contest began September 1, 1946, and will close on January 31, 1947.

Hygeia is the official health magazine of the American Medical Association. It may be well said that *Hygeia* is serving its purpose. It is being recognized by many educators throughout the U. S. A.; many periodicals, magazines and newspapers often carry articles in digest taken from *Hygeia,* indicating that *Hygeia* has become a source book of information on health throughout the nation.

Missouri has always shared well in previous contests. I am confident that Missouri again this year will be among the winners in this contest.

As State *Hygeia* Chairman, I wish to state that our *Hygeia* program in Missouri will be to get *Hygeia* distributed to as many homes and public places as possible. The following are suggested:

1. In the home of every auxiliary member.
2. In the homes of our friends and relatives as appropriate gifts of auxiliary members.
3. In the reception rooms of every physician and dentist.
4. In every reading room of community centers, hospitals, high schools, colleges and institutions.
5. In the hands of every instructor of home nursing and every member of the visiting nurses' association as a guide in health instruction.
6. In every military encampment recreation center and in all still existing U. S. O. centers.
7. In every base hospital library.
8. In Y. W. C. A.'s, Y. M. C. A.'s and Red Cross reading rooms.
9. In reception rooms of beauty parlors.
10. In the homes of the public, by soliciting subscriptions.

In soliciting *Hygeia* subscriptions it would be well to stress some of the following facts concerning *Hygeia,* such as:

1. It is a source of authentic health information, written in a simple, clear and concise manner, so that it may be clearly understood by even a school child.
2. *Hygeia* acts as a safeguard against ignorance, inasmuch as it exposes reliable information on quacks, faddists, cultists and patent medicines.
3. It teaches health habits and health information in general, giving fundamental principles of health affecting every one in the homes, schools and communities.
4. Reliable advice is given on all kinds of foods, exercise, rest and sleep for various walks of life.
5. Articles are common on the prevention of disease.
6. A digest of health news and health activities are reported from all parts of the world.
7. Last, but not least, *Hygeia* endeavors to point out the value of your family physician.

May I further suggest that each county auxiliary begin its work at home by each auxiliary member taking one *Hygeia* subscription for their home and, in addition, one gift subscription to a friend. This alone would give twice the quota for a given county auxiliary.

I earnestly urge each county auxiliary to take an active part in this contest.

HYGEIA RATES

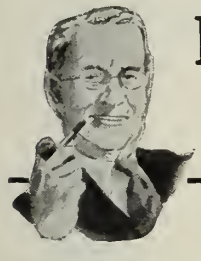
	Rate	Comm.	Remit to *Hygeia*	Add'l for Canada	Add'l for Foreign
One-year subscription	$2.50	$1.25	$1.25	$ .50	$ .75
Two-year subscription	4.00	1.50	2.50	1.00	1.50
Three-year subscription	6.00	2.25	3.75	1.50	2.25
Nine-month subscription	1.88	.94	.94	.38	.56
Six-month subscription	1.25	.62½	.62½	.25	.38

SPECIAL GROUP SUBSCRIPTION RATES FOR HYGEIA

12 mos.—	3 to 9 subscriptions	$2.25	each $1.00	Comm. each
	10 to 24 subscriptions	2.10	each .85	Comm. each
	25 to 49 subscriptions	1.90	each .65	Comm. each
9 mos.—	3 to 9 subscriptions	$1.71	each $ .77½	Comm. each
	10 to 24 subscriptions	1.57½	each .64	Comm. each
	25 to 49 subscriptions	1.44	each .50	Comm. each
6 mos.—	3 to 9 subscriptions	$1.14	each $ .50	Comm. each
	10 to 24 subscriptions	1.05	each .42½	Comm. each
	25 to 49 subscriptions	.96	each .32½	Comm. each

These rates are applicable only when three or more subscriptions are financed by one person or institution. They do not apply where a single subscription is placed by one individual.

Advertisement



From where I sit
by Joe Marsh

Friendship—Three Thousand Miles Apart

Ever play chess? It's a great game! One of the strongest friendships I know of started with a game of chess —between Doc Walters, in our town, and a man named Dalton Barnes, in England.

They've never seen each other, never met. But for the past eight years they've been playing chess by mail together—Doc puzzling over Dalton's latest letter, while he sends a chart of his next move to England.

Doc always thinks best with a mellow glass of beer beside his chessboard. And the Englishman writes him that he does the same. "You know, it's almost as if we shared a glass of beer together, too!" says Doc contentedly.

From where I sit, you can talk about diplomacy and foreign policy, but it's often those little things—like a game of chess or a friendly glass of beer —that can make for tolerance and understanding . . . between people of all nations . . . between neighbors right here at home!

Joe Marsh

Copyright, 1946, United States Brewers Foundation

Prevent INFECTION



with MERCUROCHROME

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

(H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium)

Extensive use of the Surgical Solution of Mercurochrome has demonstrated its value in preoperative skin disinfection. Among the many advantages of this solution are:

Solvents which permit the antiseptic to reach bacteria protected by fatty secretions or epithelial debris.

Clear definition of treated areas. Rapid drying.

Ease and economy of preparing stock solutions.

Solutions keep indefinitely.

The Surgical Solution may be prepared in the hospital or purchased ready to use.

Mercurochrome is also supplied in Aqueous Solution, Powder and Tablets.

HYNSON, WESTCOTT & DUNNING, INC.

Baltimore 1, Maryland



Because DARICRAFT

1. is EASILY DIGESTED
2. has 400 U.S.P. Units of VITAMIN D per pint of evaporated milk.
3. has HIGH FOOD VALUE
4. has an IMPROVED FLAVOR
5. is HOMOGENIZED
6. is STERILIZED
7. is from INSPECTED HERDS
8. is SPECIALLY PROCESSED
9. is UNIFORM
10. will WHIP QUICKLY

PRESCRIBED BY MANY DOCTORS ...You also may want to utilize Daricraft as a solution to your infant feeding problems, as well as in special diets for convalescents.

PRODUCERS CREAMERY CO., SPRINGFIELD, MISSOURI



SPECIAL RATES FOR PHYSICIANS AND DENTISTS

You may accept subscriptions now, from physicians and dentists and their families at a 50 per cent reduction such as: $1.25 for one-year—$2.00 for two-years—$3.00 for three-years, etc. These special rates will also apply to gift subscriptions. No commission is allowed on these orders, but credit will be given to your Auxiliary.

SPECIAL CHRISTMAS RATES TO LAYMEN EFFECTIVE DECEMBER 1, 1946

To the lay public, wishing to place gift subscriptions, the following rates should be quoted:

	Pub. Price	Your Comm.	Remit to *Hygeia*	Credit Allowed
1 gift subscription.....	$2.50	$1.25	$1.25	1 credit
2 gift subscriptions....	4.00	1.50	2.50	2 credits
Each additional gift subscription	2.00	.75	1.25	1 credit

Send all subscriptions to Hygeia Department, 535 North Dearborn Street, Chicago 10, Ill.

Let's bring Missouri to the top.

Mrs. O. A. Carron, State *Hygeia* Chairman.

Essay Contest

Again our doctors of the Missouri State Medical Association are backing us in our Fifteenth Annual Essay Contest. Mr. Tom R. O'Brien and Mr. Thomas W. Parry have given much of their time and assistance in working out the details.

The subject of the contest is "What Can Our Community Do to Improve Its Health?"

The contest closes January 15, 1947. The prizes are: 1st, $100 U. S. Savings Bond; 2nd, $50 U. S. Savings Bond; 3rd, 3 prizes of $25 U. S. Savings Bonds; 10 Honorable Mentions. Certificates will be awarded all prize winners.

The winners will be announced on April 1 at the Annual Meeting of the Missouri State Medical Association held in Kansas City. The winner will be a guest at the banquet.

The Judges are: E. K. Johnston, Professor of advertising, School of Journalism, University of Missouri; R. M. Schmitz, English Department Washington University, St. Louis; Dr. John Randolph, Head of English Department, Westminster College, Fulton; Reverend Norman J. Dreyfus, Director of the English Department, St. Louis University; Mrs. W. E. Koppenbrink, President of the Woman's Auxiliary; Dr. C. T. Ryland, Advisor to the Woman's Auxiliary; Roy Scantlin, State Superintendent of Schools, Jefferson City; Wallace C. Brown, Chairman of English Department, University of Kansas City.

Rules have been mailed to all the high schools in the state.

Won't you encourage every high school student you meet to enter our contest? Your influence will help make this contest a great success.

Mrs. Harry M. Gilkey.

Health Program Suggestions for the Woman's Auxiliary to the Missouri State Medical Association 1946-47

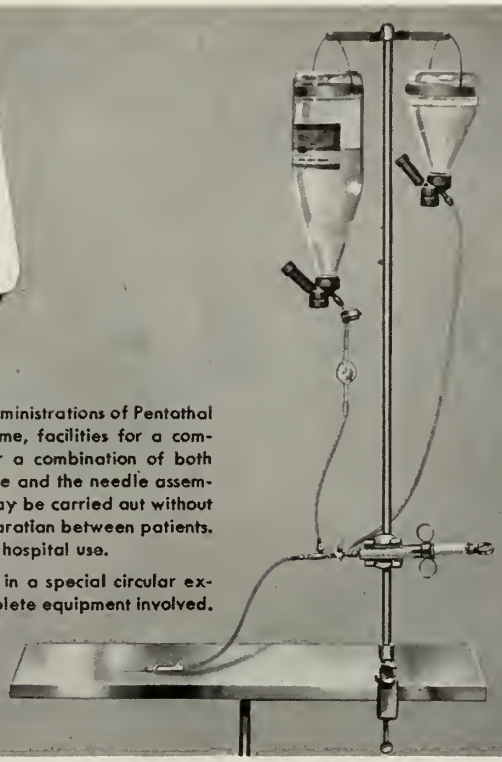
I. That each county chairman, before making her program, thoroughly familiarize herself with the program of the county medical society and of the county health unit, particularly those phases in which the Woman's Auxiliary may be of assistance in carrying out their proposed health programs, meeting the needs of her respective district. In this way, one may be stimulated for a more fitting subject to be used for public relations meetings, parent teachers meetings, health programs or for any organization promoting health problems.

II. Personal and Public Education.

Topics according to seasons.

Usual routine preschool vaccinations and general check up before child enters school and at the time

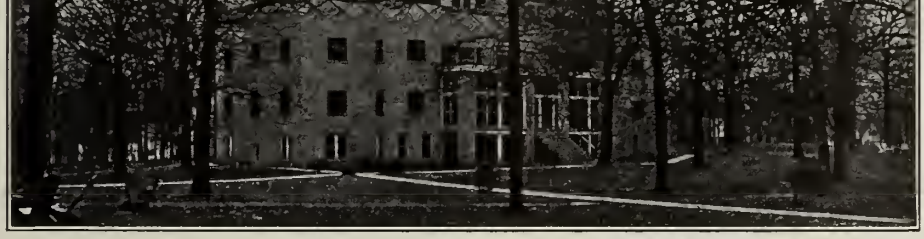
NEW
Pentothal Sodium Outfit
provides
completely closed technic



Developed to save time and simplify multiple administrations of Pentothal Sodium, the Johnson Outfit offers, for the first time, facilities for a completely closed method using the syringe, drip or a combination of both technics. By simply changing a short length of tube and the needle assembly, an entire day's schedule of administrations may be carried out without the usual loss of time involved in autoclaving preparation between patients. The equipment has been given exhaustive tests in hospital use.

Write now for complete information contained in a special circular explaining the new technic step by step and the complete equipment involved.

A. S. ALOE COMPANY
1831 Olive St. • St. Louis 3, Mo.



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.
Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.
Resident Physician
Michael Lewis, M.D.

For full information, address
Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

HANGER
INVENTORS and MANUFACTURERS
of
ENGLISH WILLOW and DURAL LIGHT METAL LIMBS


EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION
J.E. HANGER, INC.
1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088



A complete line for clinical laboratories devoted to all branches of chemistry, bacteriology, hematology, and parasitology. Tested and checked in our own clinical laboratories. Purity warranted. Our facilities assure prompt shipment of large or small orders. Inquiries invited.

COMPLETE CATALOG
and Medical Reference Guide

Reagents catalogued alphabetically—also according to subjects and techniques, plus medical reference guide. Catalog comprises full line blood testing sera including anti-Rh, anti-M and anti-N; also reagents for Wassermann, Kline, and Kahn tests. Write for your copy. FREE ON REQUEST.



GRADWOHL LABORATORIES
R. B. H. Gradwohl, M. D., Director
3514 Lucas Av. St. Louis, Mo.

communicable diseases are most likely to appear.

III. Study of famous scientists, doctors and nurses.

1. Nathaniel Scudder, founder of first state medical society.

2. Joseph Lister.

3. Sir James MacKenzie, authority on heart.

IV. Papers written by well known doctors will be sent upon request. Suggestions:

"Feet and Shoes," by J. H. Finn.

"Hair-Brained Notions," by Louis Mattox Miller.

"Varicose Veins, Their Cause and Cure," by Hilbert F. Day.

"Streptomycin," by J. D. Ratcliff.

"Bleeders," by Robert A. Kilduffe.

"How to Reduce," by Maurice Hargrove.

"Wearing Glasses," by Walter B. Lancaster.

V. Make programs as interesting as you can by using different methods of presenting subject matter: dramatics, panel discussions and open discussions.

VI. Lectures now and then.

VII. Book reviews, condensed magazine articles from *Hygeia*, the *State Medical Journal*, *A. M. A. Journal*.

VIII. Motion pictures on health.

IX. Available fifteen minute talks.

Material on any of these listed subjects may be secured by writing: Bureau of Health Education, 535 N. Dearborn St., Chicago 10, Illinois.

Mrs. W. C. Cheek, Program Chairman.

BOOK REVIEW

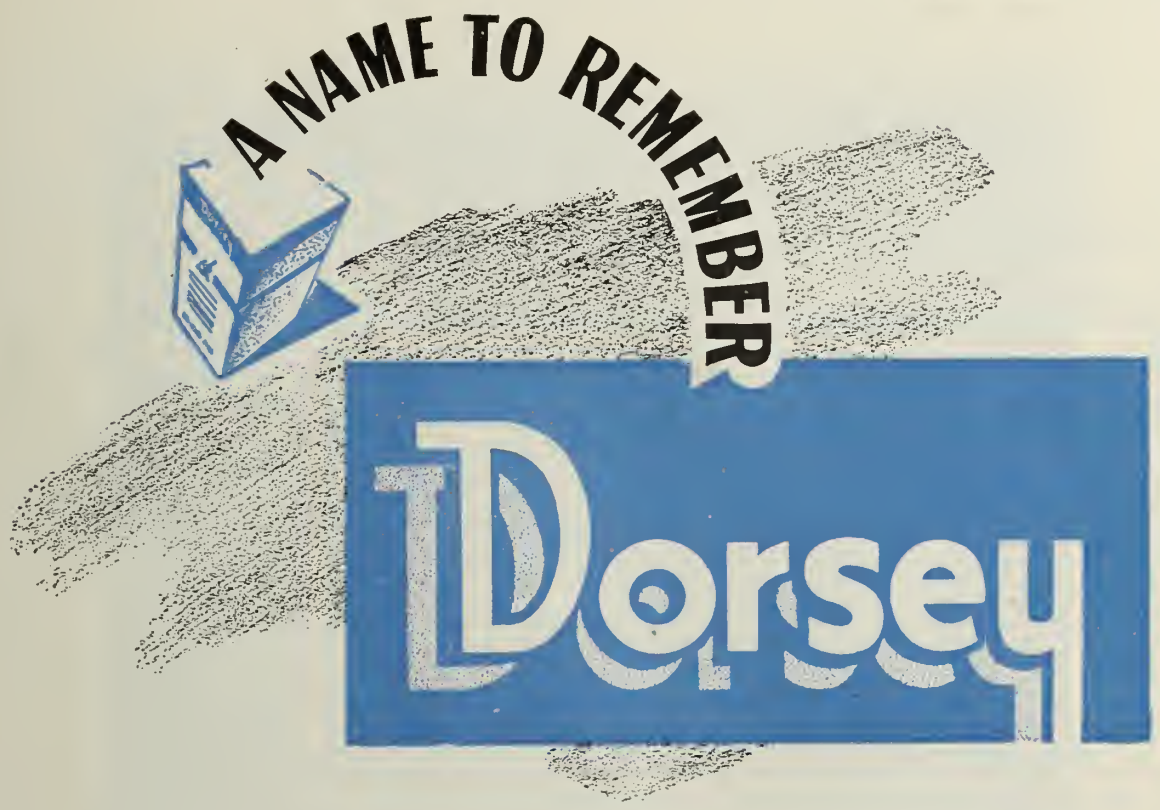
Bacillary Dysentery, Colitis and Enteritis. By Joseph Felsen, B.A., M.D., Director of Medical Research, Bronx Hospital, New York; Director of International and Pan-American Dysentery Registry. 618 pages with 145 illustrations. Philadelphia: W. B. Saunders Company. 1945. Price $6.00.

This book, written in typical textbook fashion, presents a definite attempt to cover adequately the bacillary dysenteries, both in the acute and chronic forms. The author has devoted many years to the study and control of dysenteries and has had much experience in the control of epidemics and has followed numerous cases into their late manifestations. He not only cites his own experiences and his personal points of view, but he has outlined the work of many other authorities.

The book begins with some historical aspects of these diseases and then follows a portion devoted to the epidemiology of bacillary dysenteries from every aspect. Included in this particular portion of the text is a discussion involving outbreaks in hotels, restaurants, planes, trains and many other places where the epidemiology is of considerable importance. The next portion of the book is devoted to a discussion of the clinical picture including the atypical features and terminating with the various complications. The bacteriologic aspect is then dealt with and more recent methods of identification and study are brought out. Included along with the bacteriologic aspect, mention is made of the serologic aspects and also the pathologic lesions encountered. In the latter part of the book chronic ulcerative colitis and regional enteritis are treated in a similar fashion as described above. The book concludes with an appendix outlining the technical methods one should use in the diagnosis of bacillary dysentery. Included in this portion one may also find the role of the epidemiologist, and one chapter is devoted to the education and prevention of bacillary dysentery.

The book is adequate in every respect. It is clearly and concisely written and, although somewhat detailed, it is not superfluous. An adequate bibliography is given.

A. E. U.



IT'S no trouble to remember the name of a friend . . . the street where you live . . . a favorite restaurant, clothier, druggist. These names are important; YOU DEPEND UPON THEM.

In professional life, also, a man remembers the names which play an important role: interesting patients, colleagues of consequence, medications you rely upon day after day—AND THE NAMES OF THEIR MANUFACTURERS.

Dorsey is one of the names you can count upon—a name to remember. For Dorsey (until recently Smith-Dorsey) has been making reliable pharmaceuticals for the medical profession since 1908. Dorsey products are backed by the Dorsey laboratories—fully equipped, capably staffed, following rigidly standardized testing procedures throughout.

Dorsey is a name you can depend upon . . .

THE SMITH-DORSEY COMPANY
LINCOLN, NEBRASKA
DALLAS, TEXAS LOS ANGELES, CALIF.

ACCEPTED AMERICAN MEDICAL ASSN.

MANUFACTURERS OF
PURIFIED SOLUTION OF LIVER-DORSEY
SOLUTION OF ESTROGENIC SUBSTANCES-DORSEY



S. H. CAMP AND COMPANY • Jackson, Michigan

World's Largest Manufacturers of Scientific Supports

Offices in New York • Chicago • Windsor, Ontario • London, England

MISCELLANEOUS ANNOUNCEMENTS

WANTED: Technician at Clinton General Hospital. Address inquiry to Dr. R. S. Hollingsworth, Clinton, Missouri.

FOR SALE: Trial case and cabinet, phorometer and electric eye chart. Alfred H. Herman, M.D., 4487 Westminister Ave., 10-12 a. m. Ne 5929.

Keep on
Buying
U. S. Savings
Bonds

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting November 18 and December 2.

Four Weeks Course in General Surgery starting November 4.

One Week Course in Thoracic Surgery starting November 25.

GYNECOLOGY—Two Weeks Intensive Course on dates to be announced.

One Week Personal Course in Vaginal Approach to Pelvic Surgery starting November 25.

MEDICINE—Two Weeks Intensive Course on dates to be announced.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.

An Announcement
To DOCTORS
Cooperating With VETERANS ADMINISTRATION

Spencer Supports have been approved for purchase by the Veterans Administration through its Regional Offices, Hospitals, Homes and Centers. Purchases are authorized on the prescription of doctors cooperating with the Veterans Administration, including those who are treating veterans on an out-patient basis in their home communities.

In the treatment of veterans for conditions where support therapy is indicated, the doctor, as always, can rely on Spencers to meet his most exacting requirements.

For more than forty years, Spencer Individually Designed Supports have effectively aided the doctors' treatment of such conditions as:

Sacroiliac or Lumbosacral Disturbances
Fractured Vertebrae
Protruding Disc
Spinal Tuberculosis
Spondylolisthesis
Spondylarthritis
Postural Syndrome
Hernia, If Inoperable, or When Operation Is To Be Delayed
Visceroptosis or Nephroptosis With Symptoms
Spinal or Abdominal Postoperative

The reason Spencer Supports are so effective is this: Each Spencer Support is individually designed, cut and made after a description of the patient's body and posture has been recorded—and 15 or more measurements have been taken.

Thus, more selective medical management is possible because a support especially designed for the one patient who is to wear it provides greater—more *exact*—benefits than an ordinary support.

For a dealer in Spencer Supports look in telephone book for "Spencer corsetiere" or "Spencer Support Shop," or write direct to us.

SPENCER, INCORPORATED

129 Derby Ave., New Haven 7, Conn.
In Canada: Rock Island, Quebec.
In England: Spencer (Banbury) Ltd., Banbury, Oxon.

May We Send You Booklet?

Please send me booklet, "How Spencer Supports Aid the Doctor's Treatment."

Name ..... M.D.

Street .....

City & State .....V 11-46

SPENCER *INDIVIDUALLY DESIGNED* **SUPPORTS**
Reg. U.S. Pat. Off.
For Abdomen, Back and Breasts

Lov-é Brassieres

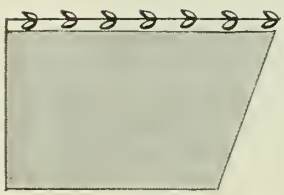


HYGIENIC REMEDIAL SUPPORT
for Specific Breast Conditions

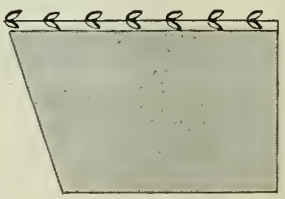
Custom-fitted to the individual in exact accordance with the physician's instructions, these supports are the most highly specialized available and a definite aid to treatment.

Special models provide hygienic remedial support for specific breast conditions. Also available: amputation models, artificial breasts, muscle pads, hospital binders, maternity garter supports.

In more than 500 bust-cup-torso size variations.



LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS



"Footprints on the sands of time"— No. 1

of a series honoring the contributions of eminent personalities of medicine and pharmacy.

JOHN MORGAN - 1735-1789

Physician and Pharmacist

Founder of the first medical school affiliated with any college or university in this country – the Medical School of the College of Philadelphia, now the Medical Department of the University of Pennsylvania.

In the first commencement address at the College he stated:

"We must regret that the very different employment of physician, surgeon and apothecary should be promiscuously followed by any one man. They certainly require very different talents.

*"The business of pharmacy is essentially different from either, free from the cares of both, the apothecary is to prepare and compound medicines as the physician shall direct . . ."**

His pioneering efforts in establishing the separation of functions of the physician and the pharmacist advanced their roles as guardians of the public health – the physician as diagnostician and prescriber, and the pharmacist as compounder and dispenser.



*LaWall, C. H.: Four Thousand Years of Pharmacy. An Outline History of Pharmacy and the Allied Sciences. Philadelphia, J. B. Lippincott Company, 1927; p. 403.

• As manufacturing pharmacists, The Harrower Laboratory, Inc. recognizes its obligation to continue serving the interests of public health in cooperation with the physician and the dispensing pharmacist.

The Harrower Laboratory Inc.

GLENDALE 5, CALIFORNIA

Dear Doctor:

Does your hospital still use heaters and wringers to prepare hot packs for your patients?

This preparation can now be done in two minutes with the Emerson Hot Pack Apparatus. It heats, moistens and wrings out packs in one operation to give your patients even and consistent applications.

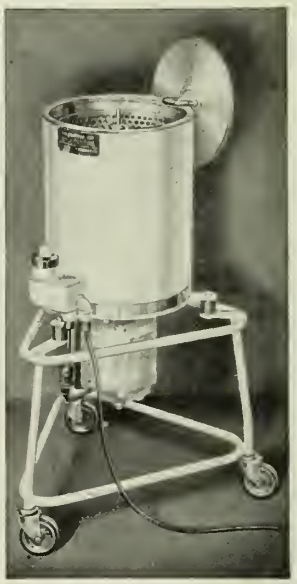
For an efficient machine requiring less personnel to operate, insist on a demonstration of the Emerson Hot Pack Apparatus.

Yours very truly,

Otis V. Bennett

Factory Representative

630 Pearl Avenue — Kirkwood 22, Missouri



The Emerson Hot Pack Apparatus made by J. H. Emerson Company

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

DEPENDABILITY...the most important quality in a contraceptive

the extra assurance with every tube of Koromex Jelly

TIME TESTED CLINICAL RECORD



with confidence

prescribe...

ACTIVE INGREDIENTS: Boric acid 2.0%, oxyquinolin benzoate 0.02% and phenylmercuric acetate 0.02% in a base of glycerin, gum tragacanth, gum acacia, perfume and de-ionized water.

write for literature

HOLLAND-RANTOS CO., Inc.
551 FIFTH AVENUE • NEW YORK 17, N. Y.

Not to be Sneezed at

In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetics allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

Since in the light of present knowledge it is not possible, save in specific cases, to make non-allergenic cosmetics, we believe the cosmetic requirements of the allergic individual should be considerd by her doctor in the light of the formulas and general characteristics of the products she is using or contemplates using.

Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetics requirements and aesthetic preferences. They are made available to you by Cosmetics Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

LUZIER'S, INC.,

Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MISSOURI



Truly, this is America . . . The Doctor-Pharmacist Team

Friends as well as colleagues in healing, the doctor drops in to chat with the pharmacist.

IN EVERY American community the physician and the pharmacist are a team, combining their knowledge and skill to make this nation's health the finest in all the world.

The efforts of the physician rest on his certainty that the solutions he may inject . . . the salve he may apply . . . the liquid or tablet he may prescribe, have been accurately dispensed by his pharmacist.

So, between these two servants of the people, a strong bond exists—fashioned in mutual interest for the well-being of those they serve. How truly American is this warm relationship of free men—each a master of his own craft, both eager to exchange news and information of their work.

It is by such initiative medicine follows the precept of one noted physician, who said, "...We must preserve, first, the Soul of Medicine, and second, Freedom in Medicine."

IN SUMMIT, New Jersey, a truly American community, Ciba constantly seeks to develop and supply the doctor and his partner, the pharmacist, with new drugs and new uses for established drugs. Thus Ciba shares in the progress of the doctor and the pharmacist and in the progress of free American Medicine.



CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT NEW JERSEY

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death $25.00 weekly indemnity, accident and sickness quarterly	$ 8.00
$10,000.00 accidental death $50.00 weekly indemnity, accident and sickness quarterly	$16.00
$15,000.00 accidental death $75.00 weekly indemnity, accident and sickness quarterly	$24.00
$20,000.00 accidental death $100.00 weekly indemnity, accident and sickness quarterly	$32.00

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,900,000.00	$13,500,000.00

$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA

ALCOHOL—MORPHINE—BARBITAL

ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.



Write for descriptive booklet

THE RALPH SANITARIUM

529 Highland Ave. Kansas City, Mo.

Telephone—Victor 4850

Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs

Registered by the Council on Medical Education and Hospitals of the A. M. A.



A Specific Type of PRECORDIAL DISTRESS

"The cardiac symptoms of the male climacterium represent a specific type of precordial distress for which gonadal-hormone therapy is the most satisfactory treatment."[1]

ORETON, testosterone propionate, usually effects a decrease in the frequency, severity and duration of attacks of the form of angina pectoris caused by male sex hormone deficiency.

ORETON

ORETON (testosterone propionate) is administered by intramuscular injection in doses of 25 mg. two to three times weekly for six to eight weeks. After improvement, the frequency and dose are reduced and, often, freedom from further pain can be maintained with ORETON-M Tablets, 10 mg. administered one to three times daily.

ORETON (testosterone propionate) in oil for intramuscular injection in ampules of 1 cc. containing 5, 10 and 25 mg. in boxes of 3, 6 and 50 and in vials of 10 cc., each cc. containing 25 mg. ORETON-M Tablets (methyl testosterone) 10 mg. in boxes of 15, 30 and 100.

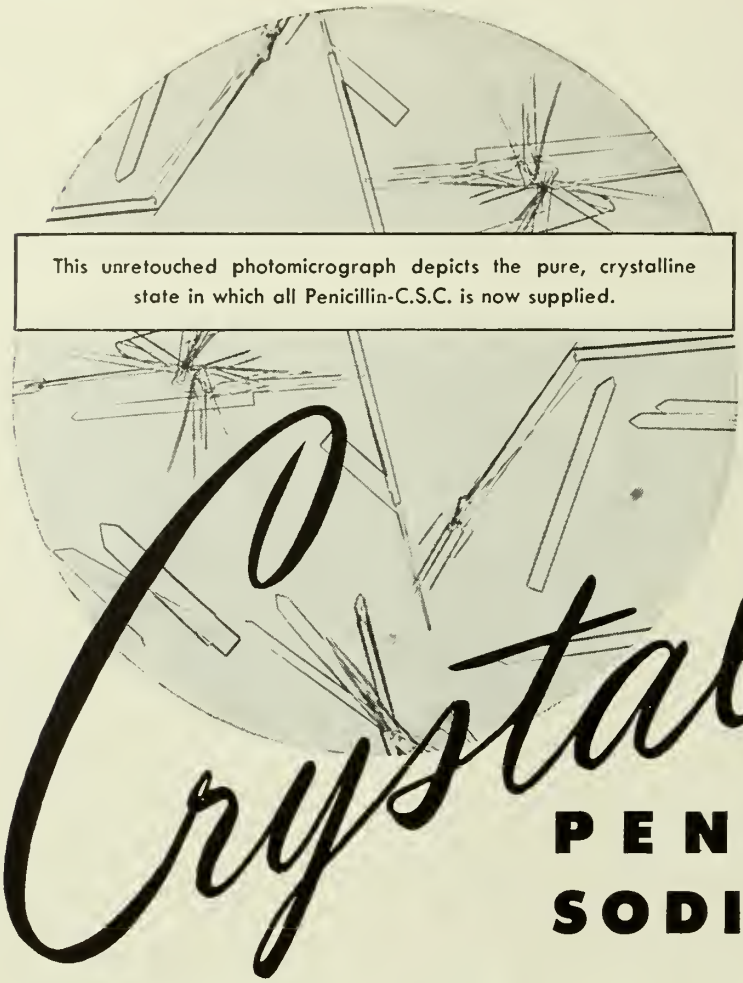
1. McGavack, T. H., J. Clin. Endocrinol. 3:71, 1943.

Trade-Marks ORETON and ORETON-M—Reg. U. S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD, NEW JERSEY

IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL



This unretouched photomicrograph depicts the pure, crystalline state in which all Penicillin-C.S.C. is now supplied.

SYMBOL OF PURITY

Crystalline PENICILLIN SODIUM-C.S.C.

As a result of special processes of purification and crystallization, all Penicillin-C.S.C. is now supplied in the form of the highly purified, heat-stable Crystalline Sodium Salt of Penicillin-C.S.C.

Well Tolerated Subcutaneously

In the crystalline state Penicillin Sodium-C.S.C. is so pure that it can be administered subcutaneously even in large doses with virtually no pain or danger of untoward reactions due to impurities.

No Refrigeration Required

Crystalline Penicillin Sodium-C.S.C. is so heat-stable that it can be kept at room temperatures, virtually indefinitely without losing its potency.* It can now be carried in the physician's bag or stored on the pharmacy shelf. No longer need the physician wait until the patient can be hospitalized or until refrigerated penicillin can be obtained from the nearest depot.

*CAUTION: Once in solution, however, penicillin still requires refrigeration.

Optimal Therapeutic Activity

Because of its high potency per milligram, Crystalline Penicillin Sodium-C.S.C. exerts optimal therapeutic activity. A recent report shows the advantage of highly potent preparations.[1]

Potency Clearly Stated on Label

The high state of purification achieved in Crystalline Penicillin Sodium-C.S.C. is indicated by *its high potency per milligram.* The number of units per milligram is stated on each vial, thus enabling the physician to know the degree of purification of the penicillin he is using.

[1] "The potency of the penicillin undoubtedly affected the results. The first 15 patients, all treated with the same batch of penicillin, were cured. The next 7 patients were treated with the same dosage of a different batch of penicillin. Five of these 7 were not cured. Assays of penicillin used for these 7 patients showed it to be of reduced potency." Trumper, M., and Thompson, G. J.: Prolonging the Effects of Penicillin by Chilling, J.A.M.A. *130*: 628 (March 9) 1946.



Crystalline Penicillin Sodium-C.S.C. is available in serum-type vials containing 100,000, 200,000, or 500,000 units.

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

Penicillin-C.S.C. is accepted by the Council on Pharmacy and Chemistry of the American Medical Association

PHARMACEUTICAL DIVISION

COMMERCIAL SOLVENTS *Corporation*

CSC

17 East 42nd Street New York 17, N. Y.



to combat persistent depression in the aged patient

Old age sometimes brings a severe and lasting depression, marked by self-absorption, withdrawal from former interests and loss of capacity for pleasure. This depression often aggravates underlying pathology by interfering with exercise, appetite and sleep.

Because of its power to restore mental alertness and zest for living, Benzedrine Sulfate helps to overcome depression and anhedonia in the aged. Obviously, careful observation of the aged patient is desirable; and the physician will distinguish between the casual case of low spirits and a true and prolonged mental depression. The dosage should be adjusted to the individual case.

benzedrine sulfate

(*racemic amphetamine sulfate, S.K.F.*) Tablets and Elixir

Smith, Kline & French Laboratories, *Philadelphia, Pa.*

112 diagnostic Allergens



FOOD ALLERGENS

Almond
Apple
Apricot
Asparagus
Banana
Barley
Bean
Beef
Beet
Brazil Nut
Broccoli
Buckwheat
Cabbage
Cantaloupe
Carrot
Cauliflower
Celery
Cheese, American
Cheese, Swiss
Cherry
Chicken
Clam, Hard
Cocoa
Cocoanut
Codfish
Coffee
Corn
Crab
Cucumber
Duck
Eggwhite
Eggyolk
Flounder
Gelatin
Ginger
Grape (Raisin)
Grapefruit
Halibut
Herring
Honeydew
Lactalbumin
Lamb
Lettuce
Lima Bean
Lobster
Mackerel
Milk (Cow)
Mushroom
Mustard
Oat
Onion
Orange
Oyster
Pea
Peanut
Pecan
Pepper (Red, Green)
Perch
Pike
Pineapple
Pork
Potato
Prune (Plum)
Pumpkin
Quince Seed
Radish
Rice
Rye
Salmon
Sardine
Scallop
Shrimp
Soy Bean
Spinach
Strawberry
Sweet Potato
Tomato
Tuna Fish
Veal
Walnut (English)
Wheat
Whitefish (Lake)
Yeast

INCIDENTAL ALLERGENS

Cotton Seed
Dust
Flaxseed
Glue
Gum Karaya
Kapok
Orris Root
Pyrethrum
Silk
Tobacco

EPIDERMAL ALLERGENS

Cat Hair
Cattle Hair
Dog Hair
Goat Hair
Feathers, mixed
Hog Hair
Horse Dander
Rabbit Hair
Sheep Wool

FUNGUS ALLERGENS

Alternaria sp.
Aspergillus fumigatus
Chaetomium sp.
Cladosporium
Epidermophyton inguinale
Hormodendron
Monilia sitophila
Mucor plumbeus
Penicillium digitatum
Trichophyton interdigitale

Arlington

THERE is increasing evidence that, in asthma, gastrointestinal allergies, infantile eczema, migraine, etc., treatment of allergic sensitivities is yielding gratifying results.

To facilitate diagnosis, Arlington offers a specially prepared assortment of 112 diagnostic allergens representing the most commonly reported causative factors . . . foods, epidermals, fungi and incidentals. Each vial contains sufficient material for at least 30 tests. Full instructions for the simple scratch-test technique and a supply of N/20 NaOH are included.

These dry allergens remain active indefinitely at room temperature. The allergens listed represent the standard Arlington selection. If preferred you may make your own selection of 112 allergens from our current list, available upon request.

$35.00 ALLERGY DIAGNOSTIC SET

Biological Division

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1 NEW YORK

"BEMINAL"

TABLETS

No. 815

For the prophylaxis and treatment of mild or subclinical vitamin B complex deficiencies.

1



"BEMINAL"

GRANULES

No. 925

Vitamin B complex in a dry, palatable and readily soluble form.

2



"BEMINAL"

Forte

INJECTABLE

(DRIED)

No. 495

Important members of the vitamin B complex in dried form. When reconstituted in solution, provides a high concentration for intensive therapy.

3



"BEMINAL"

WITH IRON AND LIVER

No. 816

Ferrous carbonate, liver, and B complex for the treatment of iron deficiency anemias.

4



"BEMINAL"

Forte

WITH VITAMIN C

No. 817

Highly potent preparation of B complex with ascorbic acid, in capsule form.

5



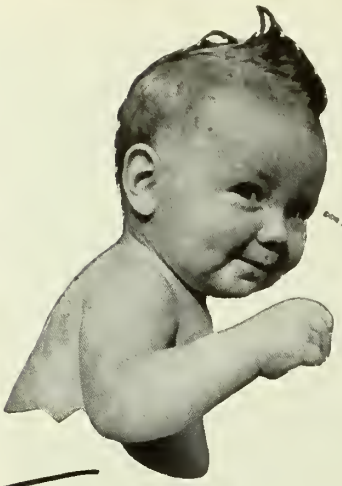
"BEMINAL"

for B Complex

Ayerst

"Beminal" Reg. U. S. Pat. Off.

AYERST, McKENNA & HARRISON Limited, 22 E. 40th Street, New York 16, N. Y.





The foundation is the thing!

Built on a *firm foundation,* the Leaning Tower of Pisa has withstood the centuries . . . so, too, health and vigor in infancy and the years ahead depend on a *firm foundation* of optimum nutrition. • BIOLAC, when supplemented with vitamin C, is a valuable infant food whose ample milk proteins constitute an adequate source of all essential amino acids . . . the indispensable *foundation stones* for sound tissues. • BIOLAC closely approximates mother's milk in safety, simplicity, and nutritional value.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION 350 MADISON AVENUE, NEW YORK 17, N. Y.



Quickly prepared... easily calculated: 1 fl. oz. Biolac to 1½ fl. oz. water per lb. of body weight.

Biolac

"BABY TALK" FOR A GOOD SQUARE MEAL

ACCEPTED AMERICAN MEDICAL ASSN Council on Foods and Nutrition

Biolac is a liquid modified milk, prepared from whole and skim milk with added lactose, and fortified with vitamin B_1, concentrate of vitamins A and D from cod liver oil, and iron citrate. Evaporated, homogenized and sterilized, Biolac is available in 13 fl. oz. cans at all drug stores.

Thanksgiving

Our fathers' God! from out whose hand
The centuries fall like grains of sand
We meet today, united, free,
And loyal to our land and Thee,
To thank Thee for the era done,
And trust Thee for the opening one.

Whittier

THE
MEDICAL PROPHYLACTIC COMPANY
FORT WAYNE, INDIANA

THE
W. E. ISLE CO.
1121 GRAND AVE.
KANSAS CITY, MO.



TRUSSES
...Accurately fitted to assure complete protection and greatest possible comfort

ENTIRE SECOND FLOOR TELEPHONE VICTOR 2350

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5159 Delmar, St. Louis Forest 1913

The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.

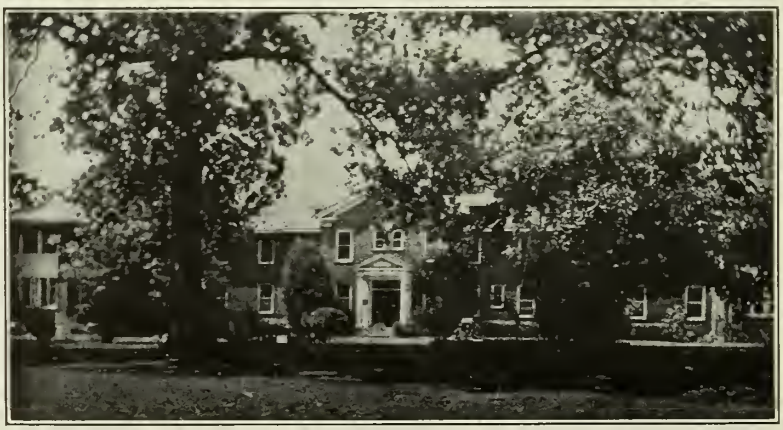
FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

James A. Wallace, M.D. *Medical Director*
S. N. Brinson, M.D. *Medical Director*
Charles W. Miller, Jr., M.D. *Psychiatrist*
Walter R. Wallace *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.



As Appetite Declines

WITH THE YEARS

The many somatic and emotional changes encountered in senescence are manifested in a variety of ways, especially by a decrease in appetite. Reduced energy expenditure, atrophic gastric changes, exaggerated food dislikes, and food intolerance all contribute, and not infrequently lead to a state of undernutrition. In older patients, this chain of events can easily produce excessive weakness and impaired stamina, adding to the burdens of senility. Ovaltine proves an excellent means of preventing these complications. Its wealth of essential nutrients, as indicated by the table of composition, aids in preventing malnutrition. Made with milk as directed, Ovaltine is a delicious food drink. Older patients enjoy it as a mealtime and between-meal beverage, and especially as a bedtime drink. Its low curd tension assures easy digestibility and rapid gastric emptying, hence appetite is not impaired.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.

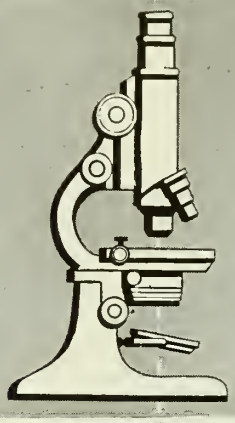


Ovaltine

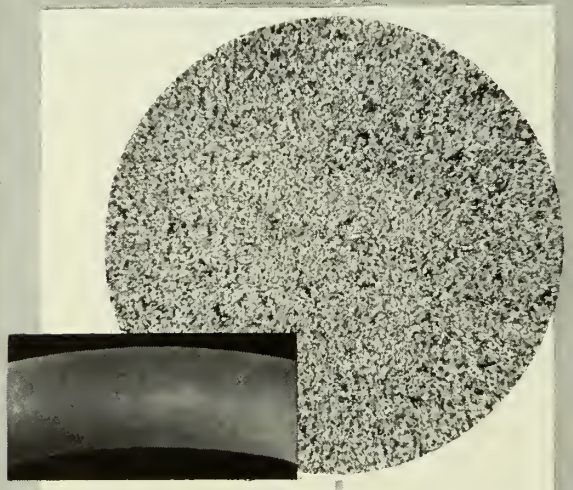
Three servings daily of Ovaltine, each made of ½ oz. of Ovaltine and 8 oz. of whole milk,* provide:

CALORIES	669	VITAMIN A	3000 I.U.
PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
FAT	31.5 Gm.	RIBOFLAVIN	2.00 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	6.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

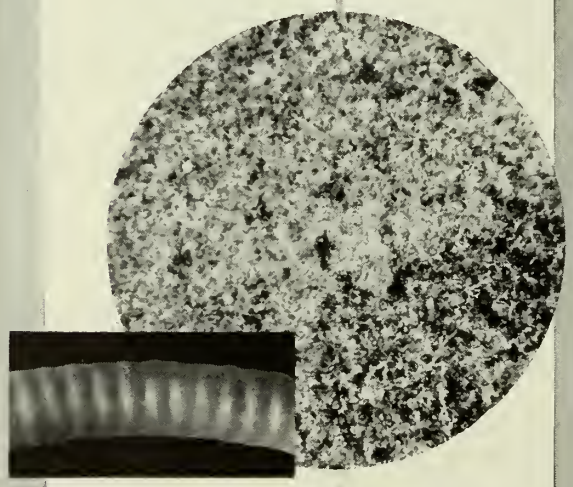
*Based on average reported values for milk.



Through the MICROSCOPE



No. 1 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a "RAMSES" Flexible Cushioned Diaphragm.



No. 2 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a conventional-type diaphragm.

quality first since 1883

The discerning eye of the microscope reveals notable advantages of the "RAMSES"* Flexible Cushioned Diaphragm.

Only the "RAMSES" has the patented rim construction which provides both a wide, unindented area of contact with the vaginal walls, and a cushion of soft rubber to buffer spring pressure.

The pure gum rubber used in the dome is prepared by an exclusive process which imparts lightness, strength, velvet smoothness, and long life.

Ramses REG. U.S. PAT. OFF.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

FLEXIBLE CUSHIONED DIAPHRAGM

Manufactured in gradations of 5 millimeters in sizes ranging from 50 to 95 millimeters, inclusive. Available through all recognized pharmacies.

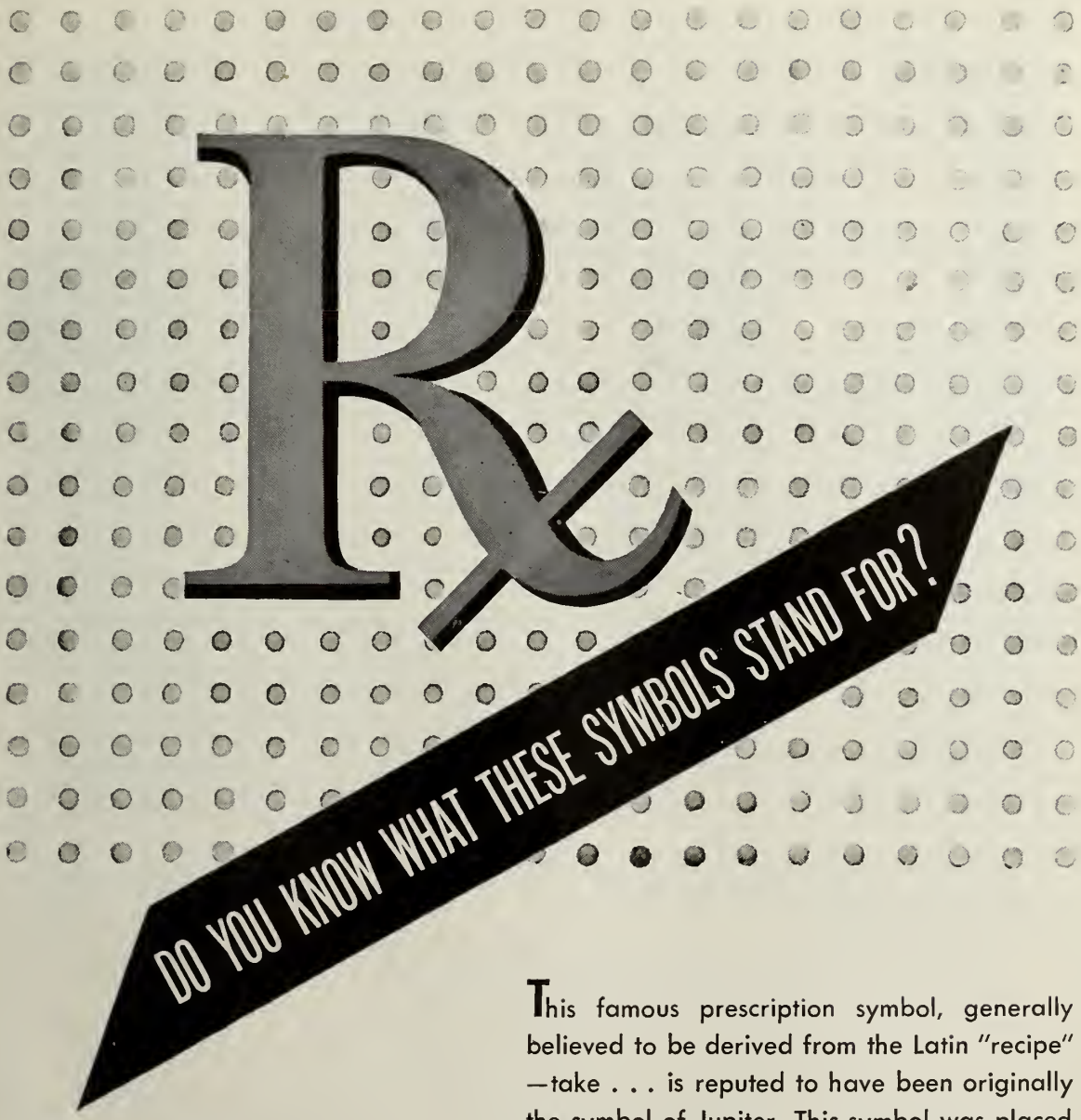
TRADE MARK OF Ramses DEPENDABILITY

gynecological division

JULIUS SCHMID, INC.

423 West 55th St., New York 19, N. Y.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.



This famous prescription symbol, generally believed to be derived from the Latin "recipe" —take . . . is reputed to have been originally the symbol of Jupiter. This symbol was placed at the top of a formula to propitiate the king of gods in order that the compound might act favorably.

Almost as famous, but rooted purely in science, is the 43-year-old Rexall symbol of dependable drug service—displayed in selected and conveniently located pharmacies throughout the nation. It is a sign that fine Rexall drugs and expert pharmacy are at your service.

Rexall
DRUGS

REXALL FOR RELIABILITY

UNITED-REXALL DRUG CO.
LOS ANGELES, CALIFORNIA

PHARMACEUTICAL CHEMISTS FOR MORE THAN 43 YEARS

Zemmer PHARMACEUTICALS

A complete line of laboratory controlled ethical pharmaceuticals.

Chemists to the Medical Profession for 44 years.

Mo 11-46 *The Zemmer Company*

Oakland Station • PITTSBURGH 13, PA.

FREE SAMPLE

DR. _____

ADDRESS _____

CITY _____

STATE _____



ROUGH HANDS FROM TOO MUCH SCRUBBING?

Soften dry skin with AR-EX CHAP CREAM! Contains carbonyl diomide, shown in hospital test to make skin softer, smoother, and even whiter! *Archives of Derm. and S., July, 1943.* FREE SAMPLE.

AR-EX CHAP CREAM

AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES

Est. 1919

QUINCY X-RAY & RADIUM LABORATORIES

(owned and directed by a Physician-Radiologist)

W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois

HAMILTON-SCHMIDT SURGICAL CO.

St. Louis, Missouri

Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted

REGISTERED NURSE IN ATTENDANCE

CEntral 1680 215 N. Tenth St.

LOYAL PROTECTIVE LIFE INSURANCE COMPANY

BOSTON, MASS. **SINCE 1895**

NON-CANCELLABLE and GUARANTEED RENEWABLE INCOME PROTECTION

Policies with 6 Essential Features

Low Net Cost Retirement Income Contracts

W. A. Steward, Dist. Mgr.
7510 Delmar Ave.
St. Louis, Mo.

Lysle Kindig, Gen. Agt.
1202 Insurance Exch. Bldg.
Kansas City, Mo.

THE MARY E. POGUE SCHOOL

For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319



Sometimes you can break a good rule!

It's usually a wise rule not to plan a chicken dinner before the eggs are hatched.

But not always!

If the "chicken dinner" represents your future, and the "eggs" are financial nest eggs—go ahead and plan!

Especially if your *nest eggs* are the War Bonds you have bought—and the Savings Bonds you *are buying*. For your government *guarantees* that these will hatch out in just 10 years.

Millions of Americans have found them the safest, surest way to save money . . . and they've proved that buying Bonds on the Payroll Savings Plan is the easiest way to pile up dollars that anyone ever thought of.

So keep on buying Savings Bonds at banks, post offices, or on the Payroll Plan.

Then you *can* count your chickens before they're hatched . . . plan exactly the kind of future you want, *and get it!*

SAVE THE EASY WAY... BUY YOUR BONDS THROUGH PAYROLL SAVINGS

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

A PUBLIC SERVICE PROJECT — The Advertising Council

The Annual Clinical Conference
of the
Chicago Medical Society

will be held at the Palmer House
March 4, 5, 6, and 7, 1947.

Plan now to attend this instructive meeting.

Make your Hotel Reservations early
to avoid disappointment.

IMMEDIATE DELIVERY
McIntosh Diathermys—Cabinet models
McIntosh Infra Red Lamps $12.00—Quartz Lamps
—Galvanic—McKesson Waterless Basil
Complete line of examination furniture
Diathermy tube and pad replacements—accessories
X-Ray—Rentals. Quartz Burners repaired—service
Phone for Demonstration
EDMUND F. HANLEY—Distributor
1021 N. Grand Blvd. Jefferson-3850—St. Louis 6, Mo.

Freidman Pregnancy Test
requires only 48 hours. Write
for mailing tube and vial.
Established 1938 *Price $5.00*
Pregnancy Diagnostic Laboratories
DYSART, IOWA

THE STOKES SANITARIUM 923 Cherokee Road. Louisville, Kentucky
Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.
MENTAL patients have every comfort that their home affords.
The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.
NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.
E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Hair Permanently Removed by Electrolysis
DOROTHY WORRELL, R.N.
233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436
Work Done on Prescription of Physicians Only



North Shore
Health Resort
Winnetka, Illinois
on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.
225 Sheridan Road *Medical Director* Phone Winnetka 211

DOCTOR:

You are cordially invited to attend the

58TH ANNUAL CONVENTION

of the

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

at

HOTEL PEABODY, MEMPHIS, TENN.

February 11-12-13-14, 1947

Read this list of those who will deliver addresses and make your hotel reservations at once.

DR. WESLEY M. SPINK—*Medicine*—Minneapolis, Minn.
DR. C. P. RHOADS—*Pathology*—New York, N. Y.
DR. M. HERBERT BARKER—*Medicine*—Chicago, Ill.
DR. R. H. MEADE—*Surgery*—Chicago, Ill.
DR. ALEXANDER T. MARTIN—*Pediatrics*—New York, N. Y.
DR. ARLIE R. BARNES—*Cardiology*—Rochester, Minn.
DR. CARL H. MCCASKEY—*Otolaryngology*—Indianapolis, Ind.
DR. JULIAN RUFFIN—*Medicine*—Durham, N. C.
DR. GEORGE CAHILL—*Urology*—New York, N. Y.
DR. DANIEL C. ELKINS—*Surgery*—Atlanta, Ga.
DR. JOHN R. LINDSAY—*Otolaryngology*—Chicago, Ill.
DR. NORRIS W. VAUX—*Obstetrics*—Philadelphia, Pa.
DR. CARL E. BADGLEY—*Orthopedics*—Ann Arbor, Mich.
DR. HENRY L. BOCKUS—*Medicine*—Philadelphia, Pa.
DR. WARREN H. COLE—*Surgery*—Chicago, Ill.
DR. WILLIAM H. DIECKMAN—*Obstetrics*—Chicago, Ill.
DR. DANIEL C. DARROW—*Pediatrics*—New Haven, Conn.
DR. GEORGE W. CURTIS—*Surgery*—Columbus, Ohio.
DR. W. L. BENEDICT—*Ophthalmology*—Rochester, Minn.
DR. M. C. SESMAN—*Radiology*—Boston, Mass.
DR. EMIL NOVAK—*Gynecology*—Baltimore, Md.
DR. HAROLD WOLFF—*Neuropsychiatry*—New York, N. Y.

Programs will be mailed January 20. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer

1479 Carr Ave. **Memphis, Tennessee**

Dependable Nourishment

DURING THAT *all-important* FIRST YEAR OF LIFE





The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant *— from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO

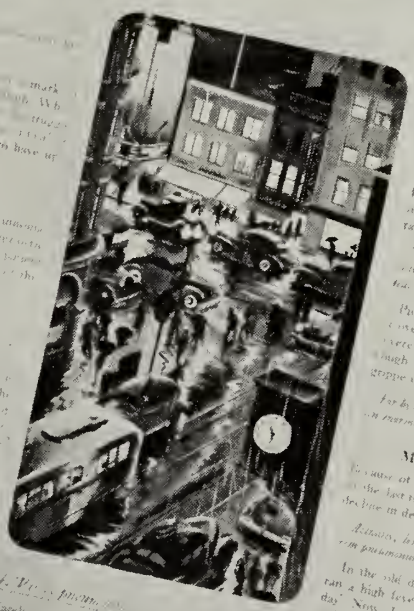
This timely message in behalf of the medical profession will appear this month, in full color, in LIFE and other leading national magazines read by more than twenty-three million people.

"See Your Doctor"

This is the 199th advertisement in the Parke-Davis series on the importance of prompt and proper medical care.

Some things you should know about pneumonia

No. 199 in a series of messages from Parke, Davis & Co. on the importance of prompt and proper medical care.



Kinds of pneumonia

Preventing pneumonia

Medicine's winning fight

Makers of medicines prescribed by physicians

PARKE, DAVIS & CO.

Research and Manufacturing Laboratories
Detroit 32, Michigan

Copyright, 1946, Parke, Davis & Co.

Boston Medical Library
8 Fenway

SHOULD VITAMIN D BE GIVEN ONLY TO INFANTS?

VITAMIN D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

MEAD'S Oleum Percomorphum With Other Fish-Liver Oils and Viosterol is a potent source of vitamins A and D, which is well taken by older children because it can be given in small dosage or capsule form. This ease of administration favors continued year-round use, including periods of illness.

MEAD'S Oleum Percomorphum furnishes 60,000 vitamin A units and 8,500 vitamin D units per gram. Supplied in 10- and 50-cc. bottles and bottles of 50 and 250 capsules. Ethically marketed.

MEAD JOHNSON & COMPANY, Evansville 21, Ind., U.S.A.

THE
JOURNAL
of the
MISSOURI STATE MEDICAL ASSOCIATION

VOLUME 43
NUMBER 12

DECEMBER, 1946

SINGLE COPY, 40 CENTS
PER YEAR, $3.00

BOSTON
DEC 17 1946
MEDICAL LIBRARY

ORIGINAL ARTICLES

Tuberculosis
The Pneumonias
Chest Tumors
Significant Developments in the Field of Suppurative Diseases of the Chest
Significant Developments in the Field of Chest Radiology

EDITORIALS

Annual Session, 1947
Medical Skills and Resources of the Nation
Rural Medical Service

(Contents Index Page 817)

INDEX NUMBER

SYMBOLS OF SIGNIFICANCE

Tyrothricin

Parke-Davis

The King's Touch

• Man's longing for a simple, topical cure for disease, symbolized in the King's Touch, now approaches reality with the development of TYROTHRICIN and topical antibiotic therapy.

Many gram-positive microorganisms now yield to the bactericidal potency of TYROTHRICIN in infected wounds, various types of ulcers, abscesses, osteomyelitis, and certain infections of eye, nasal sinus and pleural cavity. Whenever streptococci, staphylococci and pneumococci are present and directly accessible, TYROTHRICIN may be called upon for purely topical therapeusis by irrigation, instillation and wet packs.

TYROTHRICIN, P. D. & Co., is one of a long line of Parke-Davis preparations whose service to the profession created a dependable symbol of significance in medical therapeutics—MEDICAMENTA VERA.

TYROTHRICIN, P. D. & Co., is available in 10 cc. and 50 cc. vials, as a 2 per cent solution, to be diluted with sterile distilled water before use.

MEDICAMENTA VERA · P & CO.

PARKE, DAVIS & COMPANY • DETROIT 32, MICHIGAN



"How much is enough?" is a pertinent question in vitamin administration. Heretofore, vitamins were most extensively used for supplementation. Today therapeutic requirements are clearly recognized and differentiated from maintenance needs. Vitamins in therapeutic potencies are now recommended for the multiple deficiencies so frequently associated with certain acute and chronic illnesses. Upjohn provides vitamins in economical, effective forms and in potencies to meet therapeutic needs as well as maintenance requirements.

Upjohn
KALAMAZOO 99, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS

CONTENTS

Tuberculosis. Jay Arthur Myers, M.D., Minneapolis, Minn. 829

The Pneumonias. Ralph A. Kinsella, M.D., St. Louis 836

Chest Tumors. Evart A. Graham, M.D., St. Louis.. 837

Significant Developments in the Field of Suppurative Diseases of the Chest. James L. Mudd, M.D., St. Louis 839

Significant Developments in the Field of Chest Radiology. L. R. Sante, M.D., St. Louis..... 840

Abstracts and Digests—
The Psychological Moment in the Treatment of Tuberculosis 846

Book Reviews 847, 854, 861

Editorials—
Annual Session, 1947 849
Medical Skills and Resources of the Nation..... 849
Rural Medical Service 849

News Notes 851

Deaths 851

Society Proceedings 853

Miscellany—
Reenlistment and Employment of Veterans..... 853
Cancer Clinics at Ellis Fischel State Cancer Hospital 854

Woman's Auxiliary to the Missouri State Medical Association 855

Index to Volume 43 856

Entered as Second-Class Matter, February 18, 1925, at the Post Office at Fulton, Mo., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1003, Act of October 3, 1917, authorized July 30, 1918. Business Offices, 1201-5 Bluff St., Fulton, Mo., and 623 Missouri Building, St. Louis, Mo., Editorial Office, 623 Missouri Building, St. Louis, Mo. Return postage guaranteed. Printed by The Ovid Bell Press, Inc., Fulton, Mo.

THE MAJOR CLINIC ASSOCIATION

3100 Euclid Avenue Kansas City, Missouri

A Well Equipped Institution for the Treatment of Nervous and Mental Diseases and Alcohol, Drug and Tobacco Addictions



Beautiful Location Large, Well Shaded Grounds, Spacious Porches, All Modern Methods for Restoring Patients to a Normal Condition

HERMON S. MAJOR, M.D.
Medical Director

HERMON S. MAJOR, JR.
Business Manager

AMERICAN MEDICAL ASSOCIATION

President, Harrison H. Shoulder, Nashville.
President-Elect, Olin West, Chicago.

MISSOURI STATE MEDICAL ASSOCIATION

89th Annual Session, Kansas City

President, Howard B. Goodrich, Hannibal.
President-Elect, Morris B. Simpson, Kansas City.
Vice Presidents, Daniel L. Sexton, St. Louis; Winfred L. Post, Joplin; G. T. Bloomer, St. Joseph.
Speaker, Ralph E. Duncan, Kansas City; Vice Speaker, W. S. Sewell, Springfield.
Treasurer, C. E. Hyndman, St. Louis.
Secretary-Editor, R. L. Thompson, St. Louis.
Field Secretary, Raymond McIntyre, St. Louis.
Business Manager-Assistant Editor, Helen Penn, St. Louis.
Executive Secretary, Tom R. O'Brien, 623 Missouri Bldg., St. Louis.

Delegates to the American Medical Association

A. R. McComas, Sturgeon, 1946-1948; alternate, W. A. Bloom, Fayette. W. L. Allee, Eldon, 1946-1948; alternate, M. Pinson Neal, Columbia. James R. McVay, Kansas City, 1946-1947; alternate, H. L. Kerr, Crane. R. E. Schlueter, St. Louis, 1946-1947; alternate, H. E. Petersen, St. Joseph.

Standing Committees

Scientific Work—Rex L. Diveley, Kansas City, Chairman (1949); Franklin Walton, St. Louis (1948); Ralph L. Thompson, St. Louis. **Associate Members**—Raymond O. Muether, St. Louis; Vincent T. Williams, Kansas City.

Postgraduate Course—Raymond O. Muether, St. Louis, Chairman (1948); Guy D. Callaway, Springfield (1947); M. Pinson Neal, Columbia (1949); John A. Growdon, Kansas City (1949); Edward Massie, St. Louis (1948).

Publication—Ralph L. Thompson, St. Louis, Chairman; Everett D. Sugarbaker, Columbia; William H. Olmsted, St. Louis; Vincent T. Williams, Kansas City; G. V. Stryker, St. Louis.

Public Policy and Public Relations—Robert Mueller, St. Louis, Chairman (1949); W. Merritt Ketcham, Kansas City (1947); Robert A. Moore, St. Louis (1947); Llewellyn Sale, St. Louis (1948); Frank W. Hall, Cape Girardeau (1948).

Defense—Charles E. Hyndman, St. Louis, Chairman (1948); O. B. Zeinert, St. Louis (1949); L. P. Forgrave, St. Joseph (1949); Roland S. Kieffer, St. Louis (1947); L. F. Heimburger, Springfield (1947).

Medical Education and Hospitals—Dudley S. Conley, Columbia, Chairman (1949); F. L. Kneibert, Poplar Bluff (1949); James R. McVay, Kansas City (1948); V. V. Wood, St. Louis (1947); F. T. H'Doubler, Springfield (1947).

Cancer—E. C. Ernst, St. Louis, Chairman (1947); William E. Leighton, St. Louis (1949); Paul F. Cole, Springfield (1949); E. Kip Robinson, Kansas City (1948); Everett Sugarbaker, Columbia (1948).

Medical Economics—Carl F. Vohs, St. Louis, Chairman (1947); George A. Aiken, Marshall (1949); Ira H. Lockwood, Kansas City (1948); Carl A. W. Zimmerman, Cape Girardeau; W. A. Bloom, Fayette (1949).

Mental Health—E. F. Hoctor, Farmington, Chairman (1948); B. Landis Elliott, Kansas City (1949); Frank M. Grogan, St. Louis (1949); A. B. Jones, St. Louis (1947); F. M. Maples, Marshall (1947).

Maternal Welfare—E. Lee Dorsett, St. Louis, Chairman (1949); Paul F. Fletcher, St. Louis (1949); E. E. Wadlow, St. Joseph (1947); J. L. Johnston, Springfield (1948); J. Milton Singleton, Kansas City (1947).

Infant Care—O. F. Bradford, Columbia, Chairman (1948); Park J. White, St. Louis (1949); Damon O. Walthall, Kansas City (1948); P. T. Danis, St. Louis (1949); H. E. Petersen, St. Joseph (1947).

Health and Public Instruction (McAlester Foundation)—M. D. Overholser, Columbia, Chairman (1947); Frank G. Nifong, Columbia (1948); Grayson Carroll, St. Louis (1949); William Kountz, St. Louis (1947); J. V. Bell, Kansas City (1948).

Constitution and By-Laws—Joseph C. Peden, St. Louis, Chairman (1949); B. Landis Elliott, Kansas City (1947); J. H. Summers, Lebanon (1948); J. W. Thompson, St. Louis (1947).

Fractures—Daniel L. Yancey, Springfield, Chairman (1949); W. J. Stewart, Columbia (1948); Nicholas S. Pickard, Kansas City (1948); W. R. Bohne, St. Louis (1947); J. Albert Key, St. Louis (1947).

Year indicates expiration of term.

Conservation of Eyesight—C. Souter Smith, Springfield, Chairman (1949); Robert S. Minton, St. Joseph (1949); Robert Mattis, St. Louis (1948); A. N. Lemoine, Kansas City (1947); C. P. Dyer, St. Louis (1947). **Associate Members**—George A. Hornback, Hannibal; G. J. Tygett, Cape Girardeau; Philip S. Luedde, St. Louis; W. M. Bickford, Marshall; Harry B. Stauffer, Jefferson City.

Control of Venereal Disease—Rogers Deakin, St. Louis, Chairman (1949); Arthur W. Neilson, St. Louis (1949); W. S. Sewell, Springfield (1948); C. T. Ryland, Lexington; Charles Greenberg, St. Joseph (1947). **Associate Member**—R. Lee Hoffmann, Kansas City.

Industrial Health—V. T. Williams, Kansas City, Chairman (1948); R. R. Oglevie, Kansas City (1949); A. M. Ziegler, Kansas City (1949); Charles R. McAdan, St. Louis (1949); E. M. Fessenden, St. Louis (1947).

Special Committees

Physical Therapy—F. H. Ewerhardt, St. Louis, Chairman (1947); John L. Washburn, Versailles (1949); Frank L. Geierabend, Kansas City (1948); C. A. W. Zimmermann, Cape Girardeau (1947); C. H. Crego, St. Louis (1947).

Tuberculosis—E. E. Glenn, Springfield, Chairman; H. L. Mantz, Kansas City; A. C. Henske, St. Louis; Lawrence E. Wood, Kansas City; J. L. Mudd, St. Louis (1947).

Study of Cardiac Diseases—A. Graham Asher, Kansas City, Chairman (1949); Horace W. Carle, St. Joseph (1949); Drew Luten, St. Louis (1948); A. M. Estes, Jackson (1948); Julius Jensen, St. Louis (1947).

Rural Medical Service—R. W. Kennedy, Marshall, Chairman; E. C. Bohrer, West Plains; Paul Baldwin, Kennett; H. E. Petersen, St. Joseph; Wallis Smith, Springfield; W. A. Bloom, Fayette; W. F. Francka, Hannibal; J. F. Jolley, Mexico; A. L. Hansen, Appleton City; George W. Newman, Cassville; A. S. Bristow, Princeton.

COUNCILOR DISTRICTS AND COUNTIES IN EACH DISTRICT*

J. W. THOMPSON, St. Louis, Chairman

WALLIS SMITH, Springfield, Vice Chairman

First District: Councilor, H. E. Petersen, St. Joseph. Counties: Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Livingston, Mercer, Nodaway, Platte, Ray, Worth.

Second District: Councilor, W. F. Francka, Hannibal. Counties: Adair, Chariton, Clark, Knox, Lewis, Linn, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby, Sullivan.

Third District: Councilor, J. William Thompson, St. Louis County: St. Louis City.

Fourth District: Councilor, Otto Koch, St. Louis. Counties: Franklin, Jefferson, Lincoln, St. Charles, St. Louis County, *Warren.*

Fifth District: Councilor, J. F. Jolley, Mexico. Counties: Audrain, Boone, Callaway, Camden, Cole, Cooper, *Gasconade,* Howard, *Maries,* Miller, Moniteau, Montgomery, Morgan, *Osage.*

Sixth District: Councilor, R. W. Kennedy, Marshall. Counties: Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, *St. Clair,* Saline, Vernon.

Seventh District: Councilor, Edgar C. Virden, Kansas City. County: Jackson.

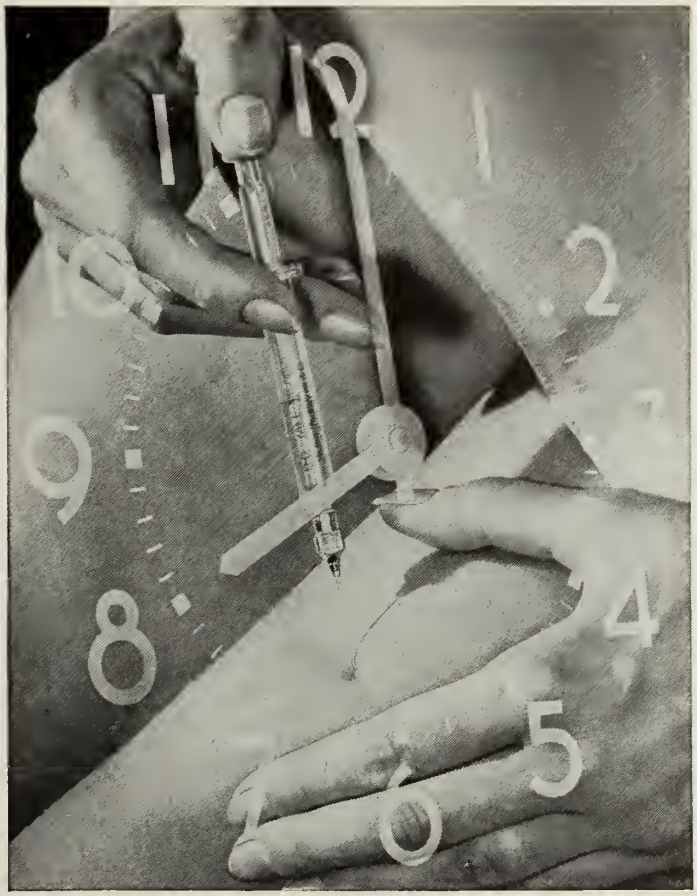
Eighth District: Councilor, Wm. Wallis Smith, Springfield. Counties: Barry, Barton, Christian, *Dade,* Dallas, Greene, Hickory, Jasper, Lawrence, *McDonald,* Newton, Polk, Stone, Taney, Webster.

Ninth District: Councilor, Eldon C. Bohrer, West Plains. Counties: Carter, Crawford, Dent, Douglas, Howell, Laclede, Oregon, *Ozark,* Phelps, Pulaski, *Ripley,* Shannon, Texas, Wright.

Tenth District: Councilor, Paul Baldwin, Kennett. Counties: *Bollinger,* Butler, Cape Girardeau, Dunklin, *Iron,* Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington, *Wayne.*

*Counties in italics are not organized.

One-injection control of diabetes



THE LIFE OF MANY DIABETICS, complicated by the need for two, and sometimes three, daily injections of insulin, can be simplified by a change to 'Wellcome' Globin Insulin with Zinc—which, because of its intermediate action, may provide adequate control with *only one injection a day.* This welcomed change-over can be made in three clear-cut steps:

1. THE INITIAL CHANGE-OVER DOSAGE: On the first day, 30 minutes or more before breakfast, give a single dose of 'Wellcome' Globin Insulin with Zinc, equal to 2/3 of the total previous daily dose of regular insulin.

2. ADJUSTMENT TO 24 HOUR CONTROL: Gradually adjust the Globin Insulin dosage to provide 24-hour control as evidenced by a fasting blood sugar level of less than 150 mgm. or sugar-free urine in the fasting sample.

3. ADJUSTMENT OF DIET: Simultaneously adjust carbohydrate distribution of diet to balance insulin activity; initially 2/10, 4/10 and 4/10. Any midafternoon hypoglycemia may usually be offset by giving 10 to 20 grams of carbohydrate between 3 and 4 p.m. Base final carbohydrate adjustment on fractional urinalyses.

Most mild and many moderately severe cases may be controlled by *one daily injection of 'Wellcome' Globin Insulin with Zinc,* a clear solution comparable to regular insulin in its freedom from allergenic properties. Vials of 10 cc.; 40 and 80 units per cc. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Pat. 2,161,198. Literature on request.

'Wellcome' Trademark Registered

'WELLCOME' Globin Insulin WITH ZINC

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 EAST 41ST STREET, NEW YORK 17, N.Y.

County Societies in Affiliation with the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	M. L. Holliday	Fillmore
Audrain	5	J. Frank Jolley	Mexico	Fred Griffin	Mexico
Barry-Lawrence-Stone	8	A. P. Copetti	Crane	Geo. W. Newman	Cassville
Barton	8	Vern T. Bickel	Lamar	Rudolf Knapp	Golden City
Bates	6	E. E. Robinson	Adrian	A. L. Hansen	Appleton City
Benton	6	T. S. Reser	Cole Camp	James A. Logan	Warsaw
Boone	5	Maurice E. Cooper	Columbia	Chas. A. Leech	Columbia
Buchanan	1	Paul Forgrave	St. Joseph	Joseph L. Fisher	St. Joseph
Butler	10	J. Lester Harwell	Poplar Bluff	A. R. Rowe	Poplar Bluff
Caldwell-Livingston	1	G. W. Carpenter	Chillicothe	Joseph Conrad	Chillicothe
Callaway	5	Geo. F. Wood	Fulton	R. N. Crews	Fulton
Camden	5	E. G. Claiborne	Camdenton	G. T. Myers	Macks Creek
Cape Girardeau	10	Rusby Seabaugh	Jackson	C. T. Herbert	Cape Girardeau
Carroll	1	W. G. Atwood	Carrollton	John H. Platz	Carrollton
Carter-Shannon	9	F. Hyde	Eminence	W. T. Eudy	Eminence
Cass	6	E. A. Albers	Pleasant Hill	D. S. Long	Harrisonville
Chariton	2	D. D. Stuart	Brunswick	G. W. Hawkins	Salisbury
Christian	8	R. R. Farthing	Ozark	C. A. Spears	Billings
Clay	1	Glenn W. Hendren	Liberty	S. R. McCracken	Excelsior Springs
Clinton	1			Wilber G. Spalding	Plattsburg
Cole	5	Leon Taylor	Jefferson City	H. B. Stauffer	Jefferson City
Cooper	5	G. W. Winn	Boonville	J. C. Tincher	Boonville
Dallas-Hickory-Polk	8	George Robinson	Humansville	Evelyn Griffin	Buffalo
De Kalb	1			W. S. Gale	Osborn
Dunklin	10	G. R. Presnell	Kennett	E. L. Spence	Kennett
Franklin	4	Decider Ecker	Pacific	F. G. Mays	Washington
Greene	8	T. Enoch Ferrell	Springfield	Kenneth C. Coffelt	Springfield
Grundy-Daviess	1	Wm. A. Fuson	Trenton	E. A. Duffy	Trenton
Harrison	1	A. L. Wessling	Bethany	H. R. Lyddon	Bethony
Henry	6	S. W. Woltzen	Clinton	R. S. Hollingsworth	Clinton
Holt	1	F. E. Hogan	Mound City	D. C. Perry	Mound City
Howard	5	Morris Leech	Fayette	Wm. J. Shaw	Fayette
Jackson	7	A. N. Lemoine	Kansas City	John A. Growdon	Kansas City
Jasper	8	Otto Blanke	Joplin	Bill H. Williams	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	Thomas A. Donnell	DeSoto
Johnson	6	R. F. McKinney	Warrensburg	R. Lee Cooper	Warrensburg
Laclede	9	John W. Peckham	Lebanon	James L. Hope	Lebanon
Lafayette	6	Edwin S. Wallace	Lexington	E. M. Moore, Jr.	Higginsville
Lewis-Clark-Scotland	2	J. R. Bridges	Kahoka	P. W. Jennings	Canton
Lincoln	4	Jacob G. Woeger	Whiteside	J. C. Creech	Troy
Linn	2	P. L. Patrick	Marceline	R. R. Haley	Brookfield
Macon	2	T. P. Gronoway	Macon	H. S. Miller	Macon
Marion-Ralls	2	W. J. Smith	Hannibal	Harry L. Greene	Hannibal
Mercer	1	T. S. Duff	Cainsville	J. M. Perry	Princeton
Miller	5	E. C. Shelton	Eldon	O. E. Shelton	Eldon
Mississippi	10	A. J. Martin	East Prairie	E. C. Rolwing	Charleston
Moniteau	5	E. A. Kibbe	California	K. S. Latham	California
Montgomery	5	J. O. Helm	New Florence	Samuel J. Byland	Wellsville
Morgan	5	W. G. Gunn	Versailles	J. L. Washburn	Versailles
New Madrid	10	B. E. Ellis	Gideon	John J. Killion	Portageville
Newton	8	D. A. Campbell	Neosho	J. A. Guthrie	Neosho
Nodaway-Atchison-Gentry-Worth	1	Henry C. Bauman	Maryville	Chas. D. Humberd	Barnard
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	J. J. Wimp	Kirksville	A. F. Miller	Kirksville
Pemiscot	10	L. D. Denton	Hayti	C. F. Cain	Caruthersville
Perry	10	J. J. Bredall	Perryville	Theodore Fischer	Altenburg
Pettis	6	D. P. Dyer	Sedalia	J. M. Rodeman	Sedalia
Phelps-Crawford-Dent-Pulaski	9	G. E. Joseph	Salem	R. E. Breuer	Newburg
Pike	2	Eugene Barrymore	Bowling Green	Chas. H. Lewellen	Louisiana
Platte	1	L. C. Calvert	Weston	E. K. Langford	Platte City
Randolph-Monroe	2	J. W. Fleming, Jr.	Moberly	F. A. Barnett	Paris
Ray	1	L. D. Greene	Richmond	T. F. Cook	Richmond
St. Charles	4	N. J. Honich	O'Fallon	Calvin Clay	St. Charles
St. Francois-Iron-Madison-Washington-Reynolds	10	H. C. Gaebe	Desloge	Van W. Taylor	Bonne Terre
Ste. Genevieve	10	C. J. Clapsaddle	Ste. Genevieve	R. W. Lanning	Ste. Genevieve
St. Louis City	3	Edw. P. Buddy	St. Louis	Joseph Grindon, Jr.	St. Louis
St. Louis	4	E. B. Waters	Kirkwood	Richard Sutter	St. Louis
Saline	6	W. K. Nix	Marshall	John R. Lawrence	Marshall
Scott	10	H. M. Throgmorton	Sikeston	A. D. Martin	Sikeston
Shelby	2	D. L. Harlan	Clarence	A. M. Wood	Shelbina
South Central Counties Medical Societies (Howell-Oregon-Texas-Wright-Douglas	9	J. R. Mott	Hartville	A. C. Ames	Mountain Grove
Stoddard	10	J. P. Brandon	Essex	W. C. Dieckman	Dexter
Taney	8				
Vernon-Cedar	6	Forrest L. Martin	Nevada	Paul L. Barone	Nevada
Webster	8	E. G. Beers	Seymour	C. R. Macdonnell	Marshfield

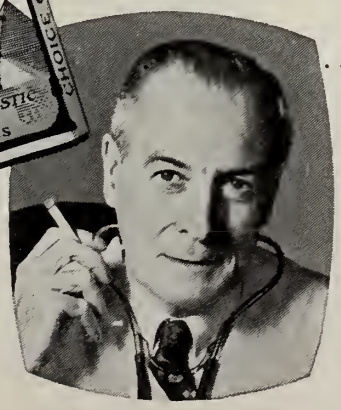


The Doctors behind the Doctor



● Magical penicillin . . . the amazing "sulfas". . . and now the new streptomycin . . . Thank the men of research medicine for those . . . and for all the other valuable aids they have placed in the doctor's "little black bag."

Biochemists and bacteriologists . . . pathologists and physiologists . . . whatever the field of research . . . they are, first and foremost, *doctors!* And, like all doctors, they are tirelessly devoting their lives to the cause of human health and happiness.



R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

According to a recent independent nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette

112 diagnostic Allergens



FOOD ALLERGENS

Almond
Apple
Apricot
Asparagus
Banana
Barley
Bean
Beef
Beet
Brazil Nut
Broccoli
Buckwheat
Cabbage
Cantaloupe
Carrot
Cauliflower
Celery
Cheese, American
Cheese, Swiss
Cherry
Chicken
Clam, Hard
Cocoa
Cocoanut
Codfish
Coffee
Corn
Crab
Cucumber
Duck
Eggwhite
Eggyolk
Flounder
Gelatin
Ginger
Grape (Raisin)
Grapefruit
Halibut
Herring
Honeydew
Lactalbumin
Lamb
Lettuce
Lima Bean
Lobster
Mackerel
Milk (Cow)
Mushroom
Mustard
Oat
Onion
Orange
Oyster
Pea
Peanut
Pecan
Pepper (Red, Green)
Perch
Pike
Pineapple
Pork
Potato
Prune (Plum)
Pumpkin
Quince Seed
Radish
Rice
Rye
Salmon
Sardine
Scallop
Shrimp
Soy Bean
Spinach
Strawberry
Sweet Potato
Tomato
Tuna Fish
Veal
Walnut (English)
Wheat
Whitefish (Lake)
Yeast

INCIDENTAL ALLERGENS

Cotton Seed
Dust
Flaxseed
Glue
Gum Karaya
Kapok
Orris Root
Pyrethrum
Silk
Tobacco

EPIDERMAL ALLERGENS

Cat Hair
Cattle Hair
Dog Hair
Goat Hair
Feathers, mixed
Hog Hair
Horse Dander
Rabbit Hair
Sheep Wool

FUNGUS ALLERGENS

Alternaria sp.
Aspergillus fumigatus
Chaetomium sp.
Cladosporium
Epidermophyton inguinale
Hormodendron
Monilia sitophila
Mucor plumbeus
Penicillium digitatum
Trichophyton interdigitale

Arlington

THERE is increasing evidence that, in asthma, gastrointestinal allergies, infantile eczema, migraine, etc., treatment of allergic sensitivities is yielding gratifying results.

To facilitate diagnosis, Arlington offers a specially prepared assortment of 112 diagnostic allergens representing the most commonly reported causative factors . . . foods, epidermals, fungi and incidentals. Each vial contains sufficient material for at least 30 tests. Full instructions for the simple scratch-test technique and a supply of N/20 NaOH are included.

These dry allergens remain active indefinitely at room temperature. The allergens listed represent the standard Arlington selection. If preferred you may make your own selection of 112 allergens from our current list, available upon request.

$35.00 ALLERGY DIAGNOSTIC SET

Biological Division

THE ARLINGTON CHEMICAL COMPANY

YONKERS 1 NEW YORK



Truly, this is America . . . Saturday Night!

"The feature picture? Starts about nine. Pretty good, too."

"I see Dr. Henry is still in his office."

YES . . . that's Main . . . where Elm runs into it. And that's the main stream of our national life where the products of the field, factory and laboratory funnel through the shops to the homes of the happiest—and healthiest—people on earth.

Their good health is no accident. It is part of our national design . . . product of the world's top standard of living, and the newest in medical knowledge.

Thanks to the community physician, there is no gap between the medical laboratories and the health needs of Main and Elm. The American practitioner, trained in freedom's tradition and alert to the new, sees to that. He is the bridge between the laboratory and the patient's bedside.

More . . . he is a member of that great profession . . . the physician . . . on whose initiative depends the interchange of medical experience between himself and his colleagues.

IN the scientific Ciba laboratories at Summit, New Jersey, we produce many of the fine pharmaceuticals of today. But even our medical scientists would be helpless in bringing their discoveries to bear on our national health—were it not for the practitioner's spirit of free inquiry . . . unfettered initiative.



CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT NEW JERSEY

A valuable intranasal agent
"... for the patient to use, between treatments or when it is not convenient to take one, is the Benzedrine Inhaler."

Wier, F.A.: Clin. Med & Surg. 43:217.

Between office treatments... your head-cold patients will be grateful for the relief of nasal congestion afforded by Benzedrine Inhaler, N.N.R. The Inhaler produces a shrinkage of the nasal mucosa equal to, or greater than, that produced by ephedrine—and approximately 17% more lasting.

Each Benzedrine Inhaler is packed with racemic amphetamine, S. K. F., 250 mg.; menthol, 12.5 mg.; and aromatics.



Benzedrine Inhaler
a better means of nasal medication

Smith, Kline & French Laboratories, Philadelphia, Pa.

"don't smoke"...

IS ADVICE HARD FOR PATIENTS TO SWALLOW!

May we suggest, instead, *SMOKE "PHILIP MORRIS"?* Tests* showed 3 out of every 4 cases of smokers' cough cleared on changing to PHILIP MORRIS. Why not observe the results for yourself.

**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*

TO THE PHYSICIAN WHO SMOKES A PIPE; We suggest an unusually fine new blend—Country Doctor Pipe Mixture. Made by the same process as used in the manufacture of Philip Morris Cigarettes.



Brighter horizons for the petit mal patient

With the development of Tridione, children handicapped by frequent petit mal, akinetic and myoclonic seizures are offered new hope of attaining a more normal life. A product of Abbott research, Tridione has been tested thoroughly in clinical practice and has been found to give immediate and lasting benefits in numerous petit mal cases *not helped by other forms of medication.* For example, in one group of 50 patients who had not responded to other treatment, Tridione brought a cessation of seizures in 28 percent, reduced the seizures to less than one-fourth of the usual number in 52 percent, and had little or no effect on 20 percent. In some instances, the seizures once stopped *did not return* when medication was discontinued. Tridione also has been shown by clinical tests to produce beneficial effects in the control of certain psychomotor cases. Tridione is supplied in 0.3-Gm. capsules in bottles of 100 and 1000. Literature on request. ABBOTT LABORATORIES, North Chicago, Illinois.

Richards, R. K., and Perlstein, M. A. (1945), Tridione, a New Experimental Drug for the Treatment of Convulsive and Related Disorders, Proc. Chicago Neurological Soc., Jan. 9; and (1946), Arch. Neurol. and Psychiatry, 55:164, February.

Lennox, W. G. (1945), Petit Mal Epilepsies: Their Treatment with Tridione, J. Amer. Med. Assn., 129:1069, December 15.

DeJong, R. N. (1946), Effect of Tridione in the Control of Psychomotor Attacks, J. Amer. Med. Assn., 130:565, March 2.

Thorne, Frederick C. (1945), The Anticonvulsant Action of Tridione, Psychiatric Quarterly, October.

Erickson, T. C., Masten, M. G., and Gilson, W. E. (1946), Observations on the Use of Tridione in the Treatment of Epilepsy, Presented before Amer. Neurological Soc., San Francisco, June.

Tridione

REG. U. S. PAT. OFF.

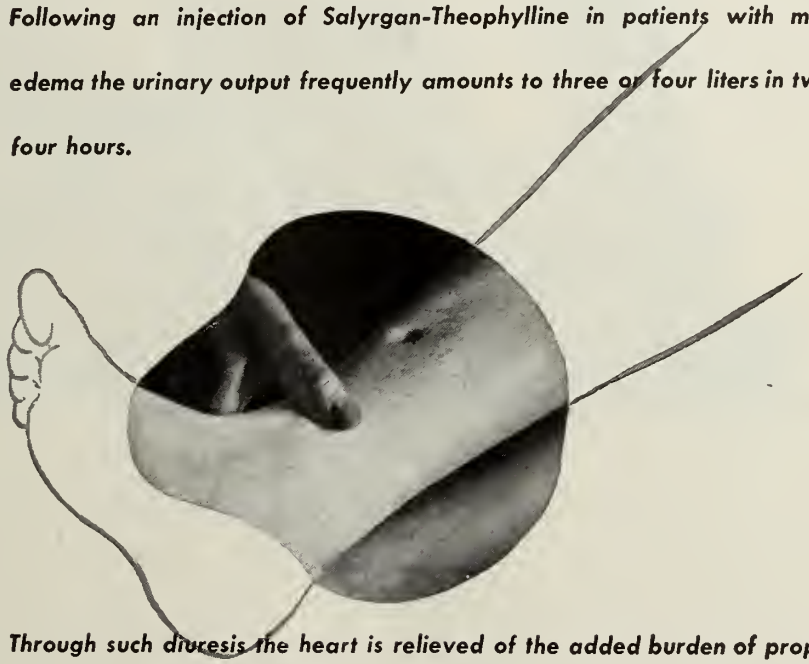
(3,5,5-TRIMETHYLOXAZOLIDINE-2,4-DIONE, ABBOTT)

For congestive heart failure:

NEXT IN IMPORTANCE TO DIGITALIS

In many cases of congestive heart failure mercurial diuretics are next in importance to digitalis in maintaining the patient's comfort and prolonging life.

Following an injection of Salyrgan-Theophylline in patients with marked edema the urinary output frequently amounts to three or four liters in twenty-four hours.



Through such diuresis the heart is relieved of the added burden of propelling the blood through the compressed blood vessels. The blood volume is decreased, and in all probability the efficiency of the heart is increased by elimination of myocardial edema.

•

Salyrgan-Theophylline is available in ampuls of 1 cc. and 2 cc. for intramuscular or intravenous administration . . . For oral use *(as an adjunct to decrease the frequency of injections and when parenteral therapy is impracticable) tablets in bottles of 25, 100 and 500.*

SALYRGAN-THEOPHYLLINE

"Salyrgan" trademark Reg. U. S. Pat. Off. & Canada
Brand of Mersalyl and Theophylline

potent mercurial diuretic

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician
New York 13, N. Y. Windsor, Ont.

Which best suits the case at hand



ALTHOUGH most of the barbiturates do have the same general effects, there is a wide variation in their duration of action. This difference is particularly important because it enables the physician to choose the product which best suits the case at hand. For a short-acting barbiturate having a high therapeutic index and a relatively wide margin of safety, 'Seconal Sodium' (Sodium Propyl-methyl-carbinyl Allyl Barbiturate, Lilly) is often the choice. 'Seconal Sodium' has definite use in insomnia, nervousness, extreme fatigue with restlessness, and similar conditions.

In obstetrics, too, 'Seconal Sodium' is often preferred to the longer-acting barbiturates. 'Seconal Sodium' is supplied in 3/4-grain and 1 1/2-grain pulvules. Available on prescription at leading drug stores and in all hospital pharmacies.

Lilly

ELI LILLY AND COMPANY

INDIANAPOLIS 6, INDIANA, U. S. A.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

COPYRIGHTED, 1946, BY MISSOURI STATE MEDICAL ASSOCIATION. ALL RIGHTS RESERVED.

VOLUME 43 DECEMBER, 1946 NUMBER 12

RALPH L. THOMPSON, M.D., Editor
HELEN PENN, Assistant Editor
623 Missouri Bldg., St. Louis, Mo. Telephone, Newstead 0404-05

PUBLICATION COMMITTEE: RALPH L. THOMPSON, M.D., Chairman; G. V. STRYKER, M.D.; VINCENT T. WILLIAMS, M.D.; EVERETT D. SUGARBAKER, M.D.; WILLIAM H. OLMSTED, M.D.

SYMPOSIUM ON SIGNIFICANT DEVELOPMENTS IN THE FIELD OF CHEST DISEASES

TUBERCULOSIS

JAY ARTHUR MYERS, M.D.

MINNEAPOLIS, MINN.

Among the diseases that attack man, in the world as a whole, tuberculosis continues to hold first place in incidence of infection, morbidity and mortality. This disease develops in two distinct phases, phase one, which is known as the primary or first infection type, and phase two, designated as the reinfection type of tuberculosis.

PRIMARY OR FIRST INFECTION TYPE

The first phase results from implantations of tubercle bacilli on tissues that are not sensitive to tuberculoprotein. These unsensitized tissues respond in a mild, nonspecific manner as they do to particles of silica dust. The defense mechanism proceeds to wall off the tubercle bacilli, which at that time are not poisonous to the tissues. From the original implantations tubercle bacilli promptly escape to regional lymph nodes in which they lodge and where the defense mechanism proceeds to wall them off as it does the original focus. Each primary lesion with those in the regional lymph nodes is known as a primary tuberculosis complex.

By the end of seven or eight weeks after focalization of bacilli the tissues have become sensitized to tuberculoprotein. Prior to this time there is no possible way to diagnose the presence of the tuberculous lesions. However, after sensitivity is established, the tuberculin test determines the diagnosis with almost 100 per cent accuracy.

Although the tuberculin reaction determines the presence of primary tuberculous lesions in the human body, there is not a satisfactory method of locating them. When sensitivity to tuberculin appears, if symptoms are present, they are slight and fleeting. Physical examination is of no avail except in about from 5 to 10 per cent of the cases in whom roentgen ray shadows appear in the lungs or hilum region which are not pathognomonic but which may be due to lesions of the primary complex. In the remaining 90 to 95 per cent the chest appears entirely clear on roentgen ray inspection since there is not enough reaction around the primary foci to absorb the rays, even though the lesions lie in the 75 per cent of the lungs visualized, and other lesions are in the 25 per cent of the lungs that is not visualized or in extrathoracic locations. In the 5 to 10 per cent in which lesions can be located, shadows vary in size from those which are barely visible to those which involve an entire lobe or more. Usually these shadows are dense and homogeneous and appear identical with those cast by pneumonia. They are produced by collateral inflammation at the site of the primary focus or by atelectasis resulting from obstruction of a bronchial ramification, by exudate from the lesion or by pressure from enlarged lymph nodes. With the passage of a few months to several years the deposition of calcium may result in shadows in lesions not previously visualized. However, this rarely occurs in more than 20 per cent of the cases. Therefore, the physician is never able to detect the location of primary lesions in the vast majority of persons in whom they are present. Nevertheless, the tuberculin test indicates their presence, and carefully performed postmortem examinations practically coincide with the tuberculin reaction.

In some parts of the world the primary, or first infection type, of tuberculosis develops in nearly all persons by the time adulthood is attained. In other places, including the United States, so much

Presented at the 88th Annual Session of the Missouri State Medical Association, St. Louis, March 24, 25, 26, 1946.

has been done to prevent or control contagion that among the uninfected the annual infection attack rate is less than 1 per cent. Thus, only a small percentage of children develop primary tuberculosis (tuberculous infection). The infection attack rate is apparently the same for all ages throughout life; therefore, primary tuberculosis now develops far more frequently among adults than in children. The body of the adult apparently defends itself against this type of tuberculosis in the same manner as that of the child, so primary tuberculosis is a benign disease in all age periods of life.

A tuberculin reaction constitutes an absolute diagnosis of the primary type of tuberculosis. Usually no treatment is necessary for this type of disease, either in the child or the adult. However, all persons in whom it exists should be guarded against exogenous reinfection and all adults should be examined annually, including roentgen ray film inspection of chest.

For primary tuberculosis *per se* the prognosis is excellent. However, this type of disease sets the stage for the second phase, or the reinfection type of tuberculosis, in both acute and chronic forms.

No way is known to prevent the development of primary tuberculosis if tubercle bacilli are permitted to enter the human body. Numerous attempts have been made to produce immunizing agents, but to date no results have been reported that can not be accounted for on the basis of other factors. Inasmuch as an attack of primary tuberculosis does not result in dependable immunity, attempts to immunize artificially do not seem to be the logical approach to the solution of the problem. The only method that has been demonstrated to be truly effective consists of preventing the body from becoming infected with tubercle bacilli. This has been accomplished with a marked degree of success in large areas of this country by isolating contagious cases and treating early lesions so they do not become contagious. The control of tuberculosis in animals, particularly cattle, has had a tremendous influence on the decline of tuberculosis in humans. Indeed, there are now large areas in which only from 5 to 10 per cent of the population up to the age of 18 years has primary tuberculosis (tuberculous infection). The remaining 90 to 95 per cent has been protected against the hazards of the sequelae of this disease.

Primary tuberculosis (tuberculous infection) is an exceedingly significant disease: (1) It is far more prevalent than the reinfection type; (2) it is prerequisite to the development of clinical disease, and therefore every person with primary tuberculosis is a potential case of the reinfection type. Although it is benign and usually causes no significant symptoms, it should never be considered lightly by the physician.

REINFECTION TYPE

In its second phase of development tuberculosis is known as the reinfection type, which results in clinical manifestations. As the name indicates, it is always preceded by the first infection type. The tubercle bacilli which cause reinfections may originate from primary lesions already present in the body (endogenous reinfection) or from persons or animals who have contagious disease (exogenous reinfection). The bacilli of reinfection are implanted on tissues that are sensitized to tuberculoprotein. This protein is so poisonous to such tissues that it causes severe and specific reactions whenever it comes in contact with them. Therefore, if the bacilli of reinfection are in sufficient numbers or proliferate adequately so as to liberate a considerable amount of protein, severe, specific inflammatory reactions occur, often followed by necrosis of the involved tissues. At the periphery of these reactions there may be proliferation of the fixed connective tissue cells, resulting in fibrosis.

The reinfection type of tuberculosis may be either acute or chronic. The highly fatal acute forms are represented by meningitis, pneumonia and generalized miliary disease, while the less serious acute forms include pleurisy with effusion, peritonitis and synovitis, all of which are preceded by primary lesions.

Chronic forms of tuberculosis may develop in any part of the body, such as the bones and joints, the kidneys, the lymph nodes and especially the lungs. Pulmonary tuberculosis is the most serious chronic form of the disease, not only because of its prevalence and the destruction it causes, but also because it so frequently becomes contagious through the bacilli eliminated in the sputum. Since there are no sensory pain fibers in the lungs and there is such a large reserve of lung tissue, chronic pulmonary tuberculosis frequently develops to an advanced stage before sufficient symptoms appear to cause its host to seek examination. Indeed, among those persons who are first examined because of symptoms, about 85 per cent have the disease in an advanced stage. By this time, treatment is difficult or unsuccessful and the disease is usually contagious. Modern diagnostic procedures enable the physician to detect chronic pulmonary tuberculosis in many cases before it is advanced, before symptoms appear and before it is contagious. Obviously, this accomplishment necessitates the examination of apparently normal people.

Accurate diagnosis is the most important phase of tuberculosis work, since upon it often depends the success or failure of treatment. Yet there is no phase of the work so much abused. This abuse lies largely in the fact that many physicians fail to make a diagnosis of tuberculosis when it exists or diagnose it when it is not present, because they rely upon shortcut or slipshod methods. Accurate diagnosis is too important for the physician to depend upon anything except all available information.

Whenever a person is examined for any cause, the tuberculosis situation should be determined.

The following procedures should be done on the first visit: (1) The tuberculin test should be administered and arrangements made to read it in from seventy-two to ninety-six hours. (2) If obtainable, sputum should be examined for acid-fast organisms; otherwise, the individual should be given a container and requested to save any sputum or even throat clearings during the next two or three days. (3) Fluoroscopic, or preferably roentgen ray film inspection, should be made of the chest for evidence of disease in the pleura, lungs and mediastinum. (4) The remainder of the physical examination should then be done, not only as it pertains to the chest, but to all parts of the body. (5) During the first visit a careful history should be taken, with special inquiry concerning contact with people or animals suffering from such diseases as tuberculosis and brucellosis. Past illnesses should be investigated carefully with reference to diagnoses made and the result of any treatment administered. Names of previous physicians and hospitals should be procured, since from them the results of laboratory tests, biopsies and the like, may be obtained. Any roentgen ray films made in the past may be borrowed for comparison with present films. Symptoms of any kind that have recently been present should be listed carefully.

On the first visit the physician may be able to make a presumptive diagnosis if acid-fast bacilli are present in the sputum and abnormal physical signs, including roentgen ray shadows, are found. On the second visit, from seventy-two to ninety-six hours after the first, the various findings can be evaluated.

The Tuberculin Test.—This test deserves special consideration inasmuch as it determines accurately the presence or absence of the primary type of tuberculosis. Obviously, if this type of the disease is not present the reinfection type cannot exist. Under certain but unimportant conditions the primary type of tuberculosis may be present in the absence of a reaction to the usual test doses of tuberculin: (1) It requires from three to seven weeks after primary lesions begin to develop before the sensitivity can be detected by the tuberculin test. This is known as the preallergic stage. (2) In severe, acute forms, such as meningitis, pneumonia and miliary disease, the sensitivity of the tissues may be so decreased that it is not elicited by the usual test doses. It is never lost completely, but much larger doses of tuberculin are necessary to detect it. This is also true in terminal stages of some cases of chronic tuberculosis. Obviously this partial failure of the tuberculin test is not important, since under these circumstances the disease is readily diagnosed by other methods. For example, in meningitis bacilli usually can be recovered from the spinal fluid; in generalized miliary disease from sternal bone marrow; in tuberculous pneumonia they are usually present in the sputum within from two to three weeks after the onset; and in chronic pulmonary tuberculosis tubercle bacilli are nearly always present in the sputum. In long standing lesions with no reinfection from exogenous or endogenous sources, sensitivity of the tissues wanes and may reach such a low level that it is not elicited by the usual second dose test. However, if there are living tubercle bacilli in the lesions, larger doses of tuberculin will result in a reaction.

Either old tuberculin or purified protein derivative is satisfactory testing material. The intracutaneous administration is the most satisfactory method. The first dose consists of 0.1 mg. and if no reaction occurs, 1.0 mg. is administered. When purified protein derivative is used, the first and second doses consist of 0.00002 and 0.005 mg., respectively. The patch test yields results comparable to those of the first dose of the intracutaneous method. Larger doses are desirable for all nonreactors and, therefore, for them one must employ the latter method.

The test should be read in from seventy-two to ninety-six hours after administration, as so-called false reactions have disappeared by this time and characteristic reactions remain.

A reaction consists of an area of induration or edema, or both, of 5 millimeters or more in diameter. This may or may not be surrounded by an area of hyperemia. Induration or edema less than 5 millimeters in diameter should be recorded as a questionable reaction and the test should be repeated a few weeks later. If it is then still questionable, 2.0 mgs. should be administered.

Failure of the tissues to react to tuberculin properly administered in adequate dosage indicates the absence of primary tuberculosis with the foregoing exceptions; whereas a characteristic reaction always indicates the presence of primary lesions containing live tubercle bacilli. Apparently the degree of allergy is not changed significantly when the reinfection type of tuberculosis develops; therefore, the test does not determine with certainty the presence of clinical disease. It only indicates that any given lesions may be tuberculous. On the other hand, when a pulmonary lesion is demonstrable by physical signs, including roentgen ray film inspection, if there is no reaction to tuberculin with these exceptions, in all probability the lesion is not tuberculous.

The tuberculin test should be administered in all ages of life, even in senility, as it affords information which is not made available by any other phase of the examination.

Symptoms.—Absence of symptoms and apparent excellent health of an individual does not rule out tuberculosis. Indeed, many persons have no symptoms during the early development of chronic pulmonary tuberculosis. Often symptoms do not appear until the disease is moderately or far advanced. The symptoms of tuberculosis, when present, such as elevation of temperature, anorexia, loss of weight, cough, expectoration and pulmonary hemorrhage are well known to all physicians. No

symptom is pathognomonic, since other pulmonary conditions may result in every symptom caused by tuberculosis. Even pulmonary hemorrhage occurs almost twice as frequently in bronchiectasis as it does in tuberculosis.

The Physical Examination.—The examination of the chest often reveals no abnormal signs on palpation, percussion and auscultation when pulmonary lesions are minimal. In moderately and far advanced disease changes in tactile fremitus, percussion notes, breath sounds and the elicitation of rales depend upon the extent of infiltration, consolidation, fibrosis and cavitation, and the proximity to the surface of the chest of these various pathologic conditions.

Inspection of the chest is facilitated by the roentgen ray. Fluoroscopic inspection should be used whenever possible as it shows position, contour and movement of the shadows of the heart and diaphragm. Within the lung, obviously only shadows of macroscopic lesions can be visualized, and of these some of the smaller and less dense ones may not be seen. No record is made of the shadows of lesions for later study or comparison with subsequent inspection.

Roentgen ray exposures are made on films of various dimensions, the usual being 14 by 17 and 10 by 14 inches, depending upon the size of the chest. More recently, photofluorograms made by taking photographs of images from the fluorescent screen have been introduced. These are made on films 35 by 35 millimeters, 70 by 70 millimeters and 4 by 5 inches. The smallest ones require magnification for inspection. Although there has been considerable controversy concerning the relative merits of the various sizes of roentgen ray films, it has been shown recently that they are essentially equal as far as revealing shadows of disease is concerned. A comparative study of films of these various sizes revealed that such advantages as may be inherent in any one of them is of so small a magnitude that it is much smaller than the human error involved in roentgen ray inspection. The roentgen ray film reveals shadows in somewhat finer detail than the usual fluoroscent screen; therefore some shadows may be seen on films which are not visualized by the customary fluoroscopic inspection. In the ordinary postero-anterior film exposure about 25 per cent of the lung is not visualized because of superimposition of shadows of other structures, such as the heart and diaphragm. However, these areas can be visualized partially by making additional films of the chest in oblique and lateral diameters.

The chief advantage of the roentgen ray film is that it leaves a record of shadows for subsequent study. Moreover, in chronic pulmonary tuberculosis some lesions cast shadows long before their locations can be detected by other phases of the examination and before they cause symptoms or become contagious. This alone justifies the use of the roentgen ray in every chest examination.

Roentgen ray inspection of the chest has certain serious limitations, as follows:

1. In addition to one's inability to visualize 25 per cent of the lung on the usual roentgen ray film, numerous lesions may exist within the parts visualized which do not cast shadows perceptible to the human eye. This is because many tuberculous lesions are microscopic and also because some macroscopic lesions are not of such consistency as to absorb roentgen rays; therefore they leave no shadow on the fluorescent screen or the film. Even generalized miliary tuberculosis may run its entire course with no evidence whatever on the roentgen ray film unless the tubercles contain caseous material or collagen. Therefore a so-called negative film affords no assurance of the absence of pulmonary tuberculosis.

2. It is not possible to make accurate diagnoses of the etiology of lesions in the lungs from their shadows. The logic of this statement is obvious when one realizes that even the pathologist who palpates and inspects with his naked eye the outside of lesions as well as their cut surfaces, is in most instances unable to determine the etiology until he has employed the microscope. Tuberculous lesions do not cast shadows that are characteristic in any sense of the word. The shadows of numerous nontuberculous conditions are identical with those of tuberculosis.

3. Whether a tuberculous lesion is undergoing progression or retrogression cannot be determined by a single roentgen ray film inspection of its shadow. However, films made periodically are of great value in this respect as they may show changes in extent of shadows, some increasing and some decreasing. They may also show evolving lesions or shadows of them which previously were not large enough to be visualized.

4. The location of lesions casting shadows is not a satisfactory diagnostic criterion. Although the chronic reinfection type of pulmonary tuberculosis appears more frequently in the upper part of the lung than elsewhere, it occurs with considerable frequency in the lower half. It is also true that nontuberculous conditions such as pneumonia, abscess and primary malignancies are most often located in the lower half of the lung. Nevertheless, they occur in the upper half with sufficient frequency that one is never justified in making a diagnosis from the location of the lesion alone.

Roentgen ray inspection of the chest is of great value in following adult tuberculin reactors. By periodically inspecting the chests of persons whose previous films have been clear, one is able to detect the location of many lesions as soon as they become macroscopic. This is the only way that the physician can determine that any given lesion is early in its evolution. In the strict sense of the word, the lesion may not be early, since it may have been of microscopic size for a long time, or its consistency was not such as to absorb roentgen rays. In any event, this method detects the loca-

tion of lesions earlier than any other procedure at present command. In persons who are found to be reactors to tuberculin on the first test and roentgen ray inspection reveals shadows indicating the presence of minimal lesions, even if they prove to be tuberculous, there is no way of determining whether they are recent or of long standing.

Many tuberculous lesions are so controlled by the defense mechanism of the body that they never extend beyond the minimal stage, although they may cast roentgen ray shadows for decades. In any group of adults there is an accruement of such lesions among persons who remain healthy, whereas, most of those whose lesions have progressed to advanced proportions have been removed because of illness or have died from the disease. Therefore, if one makes roentgen ray film inspection of the chests of 100,000 apparently healthy adults, among the lesions found there will be a preponderance of small ones. On the other hand, when one examines 100,000 individuals who report to physicians with symptoms referrable to the chest or who are being admitted to sanatoriums, one finds a preponderance with lesions in the moderately and far advanced stages. The two groups are not comparable in any sense of the word.

Even when the physician inspects the chests of adult tuberculin reactors annually, some persons whose films were clear on the last inspection will have moderately or far advanced disease one year later. Indeed, some persons with clear films on one inspection will present evidence of advanced disease three to six months later. Therefore, not all early tuberculosis is minimal or is all minimal tuberculosis early.

Microscopic Inspection.—When a pulmonary lesion is discovered, its etiology can be determined only by finding the microscopic organisms, whether they be cancer cells, fungi, tubercle bacilli or other pathogenic invaders; therefore one must look to materials excreted by the lesions. Examination of the sputum is the most direct method. When acid-fast bacilli are not found or the examinee has no sputum but a demonstrable lesion is present, one should resort to gastric lavage, which consists of administering about 200 cc. of water before breakfast. Within ten or fifteen minutes this is removed with a stomach tube, centrifuged and the sediment is inspected for acid-fast bacilli. In some cases there is such a small amount of excretion from the lesions that it is swallowed upon reaching the pharynx. The finding of acid-fast bacilli by direct microscopic inspection of any suspected material does not necessarily indicate that they are tubercle bacilli. Bacteriologists have discovered a number of nonpathogenic acid-fast bacilli that closely simulate tubercle bacilli on microscopic inspection. Indeed, from this procedure alone, the laboratorian should never report the presence of tubercle bacilli, but just state that acid-fast bacilli have been found. However, they may be regarded as presumptive evidence of tuberculosis and any indicated treatment of the patient may be instituted while the time-consuming methods of determining pathogenicity of the organisms are being conducted. These methods consist of attempts to grow the organisms on culture medium, or better, animal inoculation. When the latter method is used the suspected material is injected subcutaneously into the groin of the guinea pig. If tubercle bacilli are present the animal becomes a tuberculin reactor within two or three weeks. If confirmatory evidence is desired, the regional lymph nodes may be removed for study.

If tubercle bacilli are not recovered by the methods described previously, bronchoscopic aspirations or even biopsy material may be examined. Failure to find tubercle bacilli by any or all of the above methods does not prove their absence. Errors occur frequently in laboratories. Therefore, the reporting of acid-fast bacilli on a single occasion should never be regarded as conclusive. The red cell sedimentation rate and the differential leukocyte count may have some value in diagnosis; however, they do not afford specific information.

Specific Diagnostic Evidence.—The physician has at his command only two phases of the examination that provide information that is specific for tuberculosis, namely, the tuberculin reaction and the recovery of tubercle bacilli. No matter how severe the symptoms or how extensive the lesions as manifested by the physical examination, including roentgen ray inspection, nothing is pathognomonic except the sensitivity of the tissues to tuberculoprotein and the finding of tubercle bacilli. Despite the fact that we have had tuberculin and the methods for recovering tubercle bacilli for more than half a century and the specificity and accuracy of the results of these procedures have been proved conclusively, today one finds that most of the errors in diagnosis are made because they are neglected or ignored. Patients are told that they have tuberculosis because someone inspects a roentgen ray shadow and says so; they are sent to sanatoriums or to chest specialists whose complete examinations reveal no specific evidence of this disease. Many of them do not react to tuberculin and tubercle bacilli cannot be recovered by any method. It is true that they have pulmonary disease, but the careful examiner finds abscess, resolving pneumonia, bronchiectasis, malignancy, fungus infections and the like. Indeed, it is not unusual for sanatoriums to discharge from 15 to 20 per cent of the admissions as nontuberculous. On the other hand, many persons are treated for nontuberculous pulmonary conditions such as abscess, when all the time tubercle bacilli are present abundantly in the sputum and the tissues are sensitized to tuberculoprotein, but this specific evidence is not obtained. The accurate diagnosis could have been made within from forty-eight to seventy-two hours after the patient first reported for examination.

All too often one hears the statement that the tuberculin test is of no value in adults as all are infected with tubercle bacilli. This is not true; many adults, in fact, in some parts of this country the majority of them, have never been infected with tubercle bacilli. Therefore the tuberculin test should be administered to every examinee, regardless of age, including the period of senility.

Long ago Krause said: "These two agencies, bacillus searching and skin testing, constitute the only procedures of the laboratory that can lend a high measure of diagnostic aid in the routine appraisal of patients." Again, he said: "Aside from bacillus hunting and tuberculin testing all the other hundred and one suggestions that keep emanating from the laboratory must be regarded as too irregular, unreliable, equivocal and sometimes impracticably cumbersome to warrant their recommendation for use in routine practice; nor will any single one or combination of them give us telling information and as uniformly so as the associated search for germs and testing of the skin, each properly done." Krause said further: "The only rival of such a piece of poor and expensive practice (he refers to failure to do the tuberculin test) is the other all too common luxury of spending days—yes, weeks, so it has happened—with the issue still uncertain while diagnosis, bacilli, lay ready in the patient's sputum all the time, but the sputum was not examined." Thus the alert physician, the one to whom accuracy of diagnosis is important, will never fail to administer the tuberculin test or to search for tubercle bacilli when examining for pulmonary tuberculosis.

Activity or Progressiveness of Lesions.—It has become a relatively simple matter to detect gross pulmonary lesions. In fact, in the majority of cases roentgen ray inspection alone is adequate. To determine whether a given lesion is tuberculous requires more complicated procedures, and to determine whether a tuberculous lesion is active or progressive often is attended with great difficulty. The tuberculin reaction provides no help. It only informs the physician that primary tuberculosis is present and therefore the reinfection type of disease is a possibility. One roentgen ray inspection of the chest is never dependable; indeed, this does not even inform the physician that the lesion in question is tuberculous. However, periodic roentgen ray inspection at intervals of weeks over a long period of time can be of great assistance by determining whether the lesion is changing in size. Obviously, if the lesion becomes larger the disease is progressing. On the other hand, if it becomes smaller it has not yet stabilized and therefore must be considered active. When under such periodic inspections the lesion reaches a stage at which it does not change, and when this situation obtains for several months, one may, with reservation, say that it is stable. Despite the stability with reference to change in size, however, a definitely active process may continue within the lesion, which cannot possibly be determined by the shadow it casts. It is not uncommon to see a lesion which has been stable for a long time as far as the shadow is concerned, present definite evidence of cavitation, which was not evident on a recent previous film. In such cases caseation was occurring within the lesion that was not suspected until the necrotic material was evacuated. The size of a lesion does not necessarily indicate that it is active. There are persons who have evidence of extensive disease but who have remained apparently cured over long periods of time.

Evidence of toxemia that cannot be accounted for in any other way, with one or more of the symptoms described previously, is good evidence that the disease is active. However, in the earlier stages of the development of the disease, usually there are no symptoms noticeable to the patient. The physician does not find even elevated temperature or accelerated pulse rate, although the lesions may be active.

In some cases the determination of activity is promptly made; in fact, as soon as all diagnostic evidence is available. There is unmistakable evidence of toxemia and other findings which leave no doubt in the physician's mind. However, there is an ever increasing number of persons being found to have pulmonary lesions who are apparently healthy in every respect. In a great many such cases the disease has been well controlled by the defense mechanism of the body or through previous treatment which aided for years or decades. In other cases, whether the lesions are of recent origin or of long standing, they are active. Therefore, it devolves upon the physician to determine which of these lesions are unimportant at the moment, and which require treatment. A period of observation over weeks or months may be necessary. However, this must be done in order to avoid injustices to the patient, embarrassment to the physician and the unnecessary use of hospital and sanatorium beds so badly needed for active and contagious cases.

No matter how well stabilized a pulmonary lesion is found to be or how inactive it apparently is, or how long it has been so, reactivation is a possibility. Periodic examinations (not just roentgen ray inspection) are indicated annually, or more often, as long as the patient lives.

Treatment.—Although primary tuberculosis does not require treatment, there is no time to temporize when lesions of the reinfection type are found. It has long been known that about 25 to 30 per cent of chronic pulmonary lesions are brought under control by the defense mechanism of the body without any aid on the part of the physician. This fact may be dangerous, as it has often misled physicians so they have leaned too heavily on the body's defense mechanism and have not come to the rescue in time. Whenever a lesion is found that is determined to be definitely active or progressive, regardless of its apparent size, it is good judgment on

the part of the physician to lend immediately every possible aid to the individual's defense mechanism. At the time the disease is first diagnosed the physician has no way of determining whether the lesion belongs to the 25 or 30 per cent which would come under control spontaneously, or the 70 to 75 per cent that progress so as to become contagious, incapacitate and kill. There are approximately three chances in four that the latter situation will obtain. It is better to treat the one in four who would recover without it than to procrastinate to the detriment of the other three. When lesions are discovered in persons who have not previously been examined, they may have long since been arrested. Obviously it is an injustice to all concerned to institute treatment in such cases; hence, the importance of determining the activity of the lesion before prescribing treatment.

When the sputum contains tubercle bacilli the treatment is complicated in that strict contagious disease technic should be instituted in order to protect all persons who come in contact with the patient, including nurses and also fellow patients. At the same time the patient should be protected against other persons who have contagious disease, inasmuch as tuberculosis is one of the diseases in which reinfections can occur from exogenous sources. Absolute bed rest is indicated. (Exceptions are old, chronic cases who are not ill and who have a considerable working capacity but must be isolated from society because of contagion. Special colonies for such persons where they can do considerable work have been found satisfactory.) If the disease is limited to one lung, intrapleural or extrapleural pneumothorax may be instituted, depending upon the presence or absence of extensive adhesions. Intrapleural pneumothorax is preferable, and if no adhesions are present it is usually adequate. In some cases with adhesions, intrapleural pneumonolysis suffices to free the lung so that an adequate collapse can be accomplished. If this cannot be done, extrapleural pneumothorax may be helpful. When the disease is bilateral and is not too extensive, the lung with the greater or more active disease may be treated by artificial pneumothorax. In some cases both lungs may be treated simultaneously by partial artificial pneumothorax.

When an area of disease cannot be satisfactorily collapsed by artificial pneumothorax, extrapleural thoracoplasty may be performed, provided the contralateral lung appears sufficiently normal to tolerate this procedure. In some cases partial bilateral extrapleural thoracoplasty is necessary.

Adequate collapse of an area of disease by any method often closes cavities and eliminates contagion. Moreover, it inhibits the proliferation of tubercle bacilli and aids in the formation of fibrous tissue which tends to wall off the lesion. Collapse therapy procedures do not cure tuberculosis. They only aid the defense mechanism in arresting the disease. They do not destroy tubercle bacilli. Nevertheless, by these procedures large numbers of persons are restored to good working capacity. However, they should be kept under close observation and have frequent reexaminations, since apparently well treated lesions sometimes reactivate and new lesions may appear in the lungs or elsewhere in the body.

The most recent development in chest surgery consists of performing lobectomy or pneumonectomy in cases which cannot be brought under control by any other method of treatment. Already a sizable number of patients apparently have been treated successfully by this method. Although the disease under consideration is entirely removed, the patient's tuberculosis cannot be said to be cured, inasmuch as in almost everyone who has clinical disease there are foci of bacilli in the opposite lung or elsewhere in the body which may subsequently result in clinical lesions.

Immediately prior to 1935, after practically every drug in the Pharmacopeia had been found of little or no avail in the treatment of tuberculosis, the thought of successful chemotherapy for tuberculosis had been nearly abandoned. However, with the discovery of the efficaciousness of the sulfonamides in the treatment of several diseases, interest was revived in chemotherapy for tuberculosis. While the sulfonamides did not prove effective in either experimental or clinical tuberculosis in humans, the sulfones, of which promin, diasone and promizole were the most used, gave what appeared to be spectacular results in experimental tuberculosis. Lesions in guinea pigs appeared to "melt away" under the influence of these drugs. However, it was later discovered that only a suppressive effect had been exerted, inasmuch as the animals fell ill and died from tuberculosis after the drugs were discontinued. A good many human cases have been treated with sulfones and while some encouraging results have been reported, none of the derivatives used to date have shown spectacular results.

Penicillin was not found efficacious in the treatment of tuberculosis in animals or man. However, another antibiotic substance, known as streptomycin, resulted in a striking beneficial effect on tuberculosis in guinea pigs. At the present moment it is affording more encouragement in the treatment of tuberculosis in man than any drug heretofore used. Not enough work has yet been done to justify final conclusions, but it is apparently much closer to a satisfactory chemotherapeutic agent than ever before in the history of the disease. If streptomycin or any other drug is found to have a germicidal effect in the human body, it is possible that one may actually be able to cure tuberculosis in the strict sense of the word. If so, the ideal time to treat will be early in the primary phase of the disease, thus avoiding all of its subsequent evolutionary stages which so often result in illness, contagion and death.

Prognosis.—When only the first infection type of

tuberculosis is present the prognosis is excellent. However, this is the forerunner and the absolute prerequisite for the reinfection type of disease of both acute and chronic forms. For the reinfection type of tuberculosis the prognosis is excellent in 25 to 30 per cent of the cases, no matter how much or how little treatment is administered. In the remaining 70 to 75 per cent of cases, however, the prognosis depends to a considerable degree upon the extent of the disease and complications when treatment is begun. Among moderately and far advanced cases, even though the best known treatment is administered, the patients have their chances of dying of the disease in the next few years increased many fold. Groups of cases have been reported in which 70 to 80 per cent are dead within ten years after the disease has been detected. Even in minimal tuberculosis, regardless of the treatment, the risk of dying from tuberculosis within the next few years is from two to four times as great as that of persons of the general population.

The prevention of the reinfection type of tuberculosis consists of preventing the first infection type (tuberculous infection).

91 S. 7th St.

THE PNEUMONIAS

RALPH A. KINSELLA, M.D.

ST. LOUIS

The old point of view by which pulmonary infection was regarded as either lobar or bronchopneumonia was based on a lack of understanding of etiology. It stressed a classification on anatomic grounds. The change to a point of view based on an understanding of etiology is of recent origin. It was many years after the great epidemic of influenza in 1918 that the virus cause of this disease was established, and since then many types of pneumonia previously grouped under the name of bronchopneumonia have been identified as being caused by virus. These infections by virus are therefore not new; they simply have a new identification. Now, pneumonias are regarded as either bacterial or virus in origin, leaving the anatomic pattern of the infection in a secondary position. The advent of curative agents for bacterial infections makes the question of anatomic pattern still less important. In the old days, a patient who could not be said on the basis of physical examination to have lobar pneumonia was said to have bronchopneumonia. Today, if an attempt to establish a diagnosis of bacterial pneumonia fails then the diagnosis of virus pneumonia is made.

However, many old axioms prevail. It is still highly important to make diagnoses early if treatment, where available, is to be successful. The chief bacterial type is pneumococcal pneumonia, and this almost exclusively is the type of lobar pneumonia. Its recognition depends on the application of the time honored methods of physical examination and history taking. Its relation to a preceding virus infection has been recognized in the fact that lobar pneumonia is not an infection which strikes the healthy individual suddenly, but is one which follows in the wake of an upper respiratory infection as a carefully taken history will always show. This time relationship has never been explained adequately. The production of lobar pneumonia in dogs, depending on the insufflation of infected material of a certain gelatinous or mucoid consistency might well be imitated in man by the inspiration of infected mucus, but this should be accomplished at any time such infected mucus is available and not almost exclusively after a certain number of days, usually from six to ten, have elapsed following the onset of upper respiratory infection. Perhaps it is necessary to recognize the relatively harmless character of the upper respiratory infection. Once recognized by its sudden onset with chill, frequently with vomiting, with sustained fever, respiratory distress, leukocytosis, and rusty sputum, the treatment with sulfa drug or penicillin follows. Thanks to these new agents, the tragedies have nearly vanished and a death rate of 30 per cent has been reduced to a death rate of far less than 5 per cent.

The association of virus and bacteria has been brought about experimentally, and a mixture of vaporized virus suspension and hemolytic streptococcal culture has produced in white mice a virus pneumonia with added streptococcal infection. This situation is imitated in those instances of streptococcal infection of human lungs simultaneously infected with the virus of measles. This situation so common and so deadly in the first World War has rarely been encountered since. There has been little opportunity therefore to test the efficacy of penicillin and sulfa drug in the treatment of streptococcal pneumonia, but there is no reason to believe these agents should not be successful.

Another type of pneumonia is staphylococcal pneumonia. This type is of unusual occurrence and was last encountered in this community in 1938 when a number of such cases were seen at St. Mary's Hospital during an outbreak of virus or influenzal infections. These cases were treated unsuccessfully with sulfa drugs, and no opportunity has been presented since then to test the value of penicillin. These, then, are the more common types of bacterial pneumonia. They present different anatomic patterns and different relationships with virus infections.

Of all the virus pneumonias that are seen every year only two types of influenza virus, A and B, have been isolated and cases in a given outbreak can be identified as belonging to one of these types. However, it is well known to clinicians that these infections assume more than just two types of clinical patterns. There are differences in severity which are not explained easily and the possibility

Presented at the 88th Annual Session of the Missouri State Medical Association, St. Louis, March 24, 25, 26, 1946.

that there are other secondary factors which have an influence on the clinical picture is thus suggested. Influenzal infection may be trivial or mount in severity until it assumes the character of a devastating pandemic.

The features of influenzal infection are characteristic and the clinician should have no difficulty in knowing when not to use sulfa drugs. The influenzal infection is primary and does not follow a preceding upper respiratory infection. Its sputum is nondescript both in its gross and microscopic appearance and bacterial flora, while the sputum of lobar pneumonia is destructive and its bacteriology definite. The patient with influenza does not display a leukocytosis; all bacterial types of pneumonia are characterized by leukocytosis. If more counts of white blood cells were made fewer patients would be subjected to the risks of sulfa therapy. The roentgen ray pictures of the lungs in influenza are characteristic in their lack of distinctive pattern, but are either unilateral or bilateral, flimsy or dense in their distribution. In bacterial types striking arrangements are seen. Sulfa drug and penicillin do not affect the course of influenza and have a doubtful value in the prophylaxis of secondary bacterial infection.

One of the most interesting facts encountered in this whole field of the pneumonias is the apparent suppressive effect which the presence of influenza has on the incidence of pneumococcal lobar pneumonia. This effect was noted in the great epidemics of 1918 and 1919. In recent years at St. Mary's Hospital, with the growing incidence of influenza there has been a definite decline in the number of cases of pneumococcal pneumonia. The diagnoses were based on roentgen ray evidence and practically all cases of pneumonia of any type have had roentgen ray studies. This criterion is more valuable than the clinical diagnoses.

This peculiar relationship is definite. The explanation is not easy. Perhaps understanding of the activities of influenza virus is still too incomplete to make a complete explanation available. In a community of 800,000 people, when not more than 100,000 cases of influenza could possibly be admitted to exist, why do not the remaining 700,000 people furnish a proportional number of cases of lobar pneumonia? This is a problem which may well tax the ingenuity of the epidemiologist.

3720 Washington Ave.

CHEST TUMORS

EVARTS A. GRAHAM, M.D.

ST. LOUIS

The tumors of the chest necessarily are varied in character because they arise in such different sites as the chest wall and the various intrathoracic organs. It obviously will be impossible to discuss all of them. Rather, I shall limit my remarks to those new growths which arise in the mediastinum, the posterior chest wall and the lungs.

Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

The tumors of the mediastinum, for sake of convenience, roughly are divided into those which arise anteriorly and those which arise posteriorly. The reason for this rough classification into two groups is that different characteristics are presented by them. Most commonly those in the anterior mediastinum arise in lymphatic tissue and are thus examples of Hodgkin's disease or lymphosarcoma. Many of them which appear after middle age arise in the remnants of the thymus gland and, for want of a better name, are called thymoma. These are all malignant tumors. Occasionally a simple inflammatory enlargement of the tracheobronchial lymph glands presents clinical features of a mediastinal tumor. Other types of anterior mediastinal tumors are those which arise from congenital malformations. They comprise dermoid cysts, teratomas and pericardial cysts. The teratomas are always potentially malignant and usually are actually malignant when first recognized.

The chief clinical characteristic of anterior mediastinal tumors is that they cause serious pressure effects which result in dyspnea, cyanosis and dilatation of the superficial veins of the anterior chest wall. The phenomenon for the most part is due to pressure on or constriction of the superior vena cava.

The posterior mediastinal tumors differ from the others in that almost all of them originate in nerve tissue. Almost never do cystic or lymphogenous tumors arise in this location. Conversely, tumors of nerve origin are practically never found in the anterior mediastinum, although they sometimes arise in nerve tissue on the posterior chest wall. Despite the fact that many of the nerve tumors begin as neurofibromas, in experience at the Barnes Hospital as many as 40 per cent of them are malignant at the time they are first recognized. That constitutes an important reason for the prompt surgical removal of a tumor of the posterior mediastinum or of the posterior chest wall as soon as it is recognized.

The malignant tumors of lymphatic origin in the anterior mediastinum are better treated by roentgen ray than by operation because experience has shown the impossibility of complete surgical removal. They are generally markedly sensitive to irradiation and diminish promptly after such treatment. Although sooner or later the tumors recur, sometimes the life of the patient can be prolonged for several years by such means. In cases in which preliminary roentgen ray treatment gives no result exploratory operation is strongly indicated. By such a procedure benign cysts can be removed and sometimes even a teratoma can be found and removed before it has developed signs of malignancy.

The most important thoracic tumor from the standpoints of both frequency and serious consequences is the bronchiogenic carcinoma. This tumor seems perhaps to be increasing in frequency.

At least now it is generally recognized as one of the most common forms of cancer. Some statistical studies place it first on the list; others give it second or third place.

Until 1933 it made little practical difference whether or not the condition was diagnosed early because there was no satisfactory treatment of it. In that year, however, the first successful total removal of the lung was carried out for a bronchiogenic carcinoma and the patient is still living and well thirteen years later. Many other patients with this condition have now been cured. It is important, therefore, that attention be paid to its recognition at a time when a successful operation can be performed.

The most discouraging feature to one interested in this problem is the small percentage of patients who can be helped when they are first seen. Part of the difficulty lies with the patients who do not consult their doctors early enough, but too often the doctors who are first consulted fail to think about the possibility of cancer and, therefore, allow the patients to drift into a hopelessly inoperable stage. For example, at the Barnes Hospital in the last three years there have been 221 cases of bronchiogenic carcinoma. But of these only 39, or 18 per cent, have been operable in the sense that the lung could be removed. Yet in most cases the symptoms and signs are sufficiently characteristic to arouse the suspicion of a carcinoma even in the early stages.

What are the characteristic clinical features? In the first place the condition appears predominantly in males. A man of middle age or older who develops a chronic cough with bloodstreaked sputum who does not have tuberculosis should be suspected of having a bronchiogenic carcinoma. Adequate roentgen ray and bronchoscopic examinations should be undertaken at once. In approximately 75 per cent of cases a positive diagnosis can be made with the bronchoscope. In the remainder, although the tumor may be beyond the possibility of direct visualization, the roentgen ray and clinical evidence is usually strong enough to justify an exploratory operation to determine the true nature of the condition.

If a diagnosis is made, what is the best treatment? At the present time the most satisfactory treatment is surgical removal which means the total removal of the lung. Measures short of that will not offer the same chance of success. For it is only in this way that most of the regional lymph glands which may be involved can be removed. My associates and I have performed total pneumonectomy for carcinoma in 121 cases. In the last forty cases there have been eight deaths in the hospital, a mortality rate of 20 per cent. Most of the deaths were due to circulatory complications (cardiac or embolic). I prefer to say that 80 per cent have been given a chance to get well because only surgical removal offers that chance. Roentgen ray treatments are ineffective. Again I should like to say that mortality figures do not so much reflect the danger of the operation itself as the bad state of the patients when they are received for operation. At best the sudden removal of a whole lung is bound to be a serious procedure and it is more likely to have serious effects in a man past middle age than in a younger person who can compensate better for the physiologic changes made necessary by suddenly having all the pulmonary blood pass through only one lung. These serious effects are intensified if the condition has been complicated by prolonged infection in the lung. It is amazing how well the operation is tolerated in a young person relatively free from infection. In such a case one expects the patient to leave the hospital in three weeks and sometimes sooner. If one should restrict the operation to only the good risk patients he might have mortality statistics which would approach zero; but he would be depriving many patients of a possible chance to be cured of their cancer. One's humane instincts and a desire to listen to the pleas of the patient and his family often lead him into the performance of the operation when the risk is too great. In forty-five cases in which the operation has been performed for conditions other than tumor the mortality figures have been slightly less than 5 per cent.

As an indication that the operation in suitable cases is of value I should like to state that I have one patient alive and well thirteen years, one ten years and four months, one eight years and eleven months, one eight years and five months, one seven years and two months, one six years and two months. There are, of course, many more patients who have gone less than five years.

Some mention also should be made of the so-called bronchial adenoma. This tumor, formerly considered rare but now recognized as rather common, is characterized by a roughly spherical growth within the lumen of a large bronchus. It is usually very vascular and the expectoration of bloodstreaked sputum is a common clinical characteristic. It gives rise to symptoms as a rule at a younger age than does the squamous cell carcinoma. Microscopically it is found to be composed of tissue which bears a striking resemblance to fetal lung. There are some bronchoscopists who think they can treat the condition satisfactorily by bronchoscopic removal. The objections to this plan, however, are that in most instances all the tumor can not be removed in this way since much of it is extrabronchial and only a part of it is within the lumen of the bronchus. Moreover, Womack and I have collected abundant evidence indicating that these so-called adenomas are all potentially malignant tumors. If a part is left behind it may take on malignant characteristics at any time. In fact it is impossible to tell from the bronchoscopic biopsy whether or not the tumor has already done so. For that reason we believe these tumors should all be treated by radical surgery.

600 S. Kingshighway

BIBLIOGRAPHY

1. Graham, Evarts A., and Singer, J. J.: Successful Removal

of an Entire Lung for Carcinoma of the Bronchus, J. A. M. A. 101:1371-1374, 1933.
2. Graham, Evarts A., and Womack, Nathan: Mixed Tumors of the Lung—So-Called Bronchial or Pulmonary Adenoma, Arch. Path. 20:165-206, 1938.
3. Graham, Evarts A., and Womack, Nathan: Developmental Abnormalities of the Lung and Bronchiogenic Carcinoma, Arch. Path. 34:301-318, 1942.
4. Graham, Evarts A.: The Modern Successful Treatment of Bronchiogenic Carcinoma, Surg. Clin. N. America 24:1100-1107, 1944.
5. Graham, Evarts A., and Womack, Nathan: The Problem of So-Called Bronchial Adenoma, J. Thorac. Surg. 14:106-119, 1945.

SIGNIFICANT DEVELOPMENTS IN THE FIELD OF SUPPURATIVE DISEASES OF THE CHEST

JAMES L. MUDD, M.D.

ST. LOUIS

Many factors have been responsible for the decrease in morbidity and mortality in suppurative diseases of the chest.

Probably the most significant single factor has been the discovery of the antibiotic drugs, such as penicillin and, to a lesser degree, the sulfonamides. Better diagnostic procedures, newer anesthetic agents, together with improved methods of administering them and improved operative technics have all played an important role in making the plight of the sufferer of pulmonary suppuration much more hopeful.

In spite of the almost miraculous response of some chest diseases to the use of bacteriostatic drugs such as penicillin, streptomycin and the sulfonamides, a word of caution must be sounded. The immediate very favorable response to the drug is not always followed by a permanent cure.

This point is easily illustrated in the treatment of empyema. It is relatively easy to sterilize an empyema by the use of penicillin directly into the pleural cavity. The temperature may return to normal, the patient may be clinically well but, unless the pus is evacuated, the empyema pocket eliminated by a reexpansion of the underlying lung, this patient is not cured and he will have relapses and eventually may develop a chronic empyema.

Penicillin and the sulfonamides have been helpful in the treatment of chronic empyemas and in nonexpansile lungs following an old or neglected hemothorax. By protecting the patient with penicillin it is possible in many instances to remove the thickened pyogenic membrane from the visceral pleura and thus permit the underlying lung to reexpand. This procedure was first described by Delorme about 1893, but fell into discard because of hemorrhage and severe infection following its use.

Decortication has again been popularized by the very excellent work of the Thoracic Surgery Centers established in the forward areas in World War II. A proper understanding of the principal involved and the judicious use of the procedure early in the disease should prevent the occurrence of many chronic empyemas.

The mortality rate for lobectomy for bronchiectasis has been reduced from 55 per cent in 1929 to from 1 to 2 per cent at the present time. This has been brought about by improved diagnostic procedures, improved operative technic and improved anesthesia.

In the diagnostic field proper bronchograms are very important. It is necessary to visualize the bronchi of all the lobes. One must know which lobe or lobes are involved. This can best be done by introduction of an iodized oil into the bronchial tree and roentgen raying the patient. There are many ways of instilling the oil into the tracheobronchial tree. It may be done under direct vision through the bronchoscope, or by a catheter in the bronchus or by the aspiration method. In very young children and in infants, satisfactory bronchograms can be obtained by dropping the iodized oil into the nostril of the sleeping patient. The oil will find its way into the bronchial tree and if the patient is placed on his right or left side the corresponding bronchial tree will be outlined.

The aspiration method is satisfactory in the majority of patients. If the patient is cooperative and does not have an active pharyngeal reflex, no anesthetic is required. If he is apprehensive or has an active reflex the pharynx can be sprayed with a 2 per cent cocaine solution. The tongue is then pulled forward and the iodized oil dropped on the base of the tongue and the patient told to inhale. The patient is inclined to the right or to the left depending on the side to be filled.

Both bronchial trees can be filled at the same time and a right and left oblique film taken or one side can be filled and postero-anterior and a true lateral film made. Then about two weeks later, after the first oil has been expectorated, the opposite side can be filled. I prefer this latter method.

Better anesthetic agents and improvements in their administration also have tended to lower the mortality rate. Cyclopropane using a very high oxygen percentage has a very definite advantage in pulmonary surgery. Intratracheal anesthesia has the advantage of permitting frequent aspiration of the bronchial tree during the operation. It also gives a method of controlling respiration. Bronchoscopic aspiration immediately postoperatively has also helped to prevent morbidity.

The newer bacteriostatic agents, the sulfonamides and penicillin, have furnished the means of preventing empyema which so frequently followed the earlier attempts at lobectomy and accounted for much of the morbidity.

Individual ligation of the vessels and bronchi and greater attention to the proper closure of the bronchus together with the rapid reexpansion of the remaining lung tissue by the use of suction have led to a reduction in the incidence of bronchial fistula and empyema.

In the treatment of the acute lung abscess the

From the Department of Surgery, St. Louis University School of Medicine.
Presented at the 88th Annual Session of the Missouri State Medical Association, St. Louis, March 24, 25, 26, 1946.

controversy between the conservative method and the radical method still rages. On the one side is the group who insist that most lung abscesses get well under conservative methods such as postural drainage, various medications, both internally and by inhalations and bronchoscopic aspiration. On the other side is the group who say, "Yes, some abscesses get well spontaneously but the large majority become chronic and require extensive surgery for their cure unless external drainage is established early." This group advocates external drainage of all lung abscesses.

Surely the two groups cannot be wholly right nor wholly wrong; there must be a middle ground.

Physicians who see lung abscesses have seen many post-tonsillectomy lung abscesses clear spontaneously. The clearing is rapid and leaves little if any scar.

If the healing does not take place rapidly and if there is an appreciable roentgen ray shadow at the site of the abscess, this patient is not well and is a candidate for surgery, either external drainage or lobectomy.

If the abscess becomes chronic and thick walled, I feel that the best method of treatment is lobectomy.

SUMMARY

Probably the most significant single factor in the reduction of morbidity and mortality in lung suppuration has been the the discovery of the antibiotic drugs such as penicillin and the sulfonamides.

Better diagnostic methods, improved anesthesia and improved surgical technic also have played important roles.

634 N. Grand Ave.

SIGNIFICANT DEVELOPMENTS IN THE FIELD OF CHEST RADIOLOGY

L. R. SANTE, M.D.
ST. LOUIS

Perhaps one of the most striking developments in the field of chest roentgenography is the epidemic of atypical pneumonias which has flooded the entire country in recent years. The roentgenologist is in an especially advantageous position to observe the trends in the field of lung pathology since virtually all diseases of the respiratory tract "clear" through the roentgenology department. Is it possible that the vast array of atypical pneumonic processes which have been so prevalent in recent years were present before but were merely passed up as "respiratory infections" or "inflammatory processes"? Most roentgenologists now alive have witnessed this change in predominant types of lung involvement and I feel sure that the roentgenologic findings bear out the clinical observations that the bulk of pneumonic cases were represented by the orthodox types of lobar and bronchopneumonia and that the atypical pneumonias, as seen at present, represent a new development. At the present time, atypical pneumonia from other cause has taken the place of bacterial pneumonias as the predominant type of lung infection.

Even more important than the recognition of this fact is the change which this has wrought in our conceptions of the means by which pneumonic processes take place. No longer does one think of pneumonia as a disease affecting only the alveoli and respiratory mucous membranes but as multiple types of infection affecting any of the structures of the lung.

Each infective agent seems to have a specific predilection for some particular structure of the lung and each is attendant with its own particular clinical symptoms and course.[1] The predominant tissues involved in the various pneumonic processes may be used as a means for practical classification:

1. The alveolar spaces (bacterial lobar pneumonia).
2. The bronchi and peribronchial structures (bacterial bronchopneumonia).
3. The vascular and perivascular structures (lobular pneumonia associated with septic bacterial infection).
4. The glandular and lymphatic structures (as seen in tularemic pneumonia).
5. The interstitial tissue as seen in various types of atypical pneumonia (nonbacterial virus).

1. *Alveolar Spaces.*—Alveolar lobar pneumonia produces a dense homogeneous shadow closely limited to one or more subdivisions of the lung, presenting a characteristic appearance for each of the various lobes involved. Serofibrinous exudate with white blood cells fills the alveoli of the involved portion of the lung, explaining the dense homogeneous roentgen appearance; the alveoli themselves are neither distended nor contracted, their air content is merely replaced by cells and serum, explaining the lack of displacement of the mediastinal structures even with massive involvement; the infection seems to be on the surface of the alveolar structures, the alveolar cells do not show signs of inflammation and the interstitial tissue is devoid of any cellular reaction. The bronchi likewise show little if any inflammation and are usually open.

2. *Bronchi and Peribronchial Spaces—Bronchopneumonia.*—The picture is quite different. The bronchioles are filled with inflammatory cells, mostly polymorphonuclear leukocytes, and their walls show indication of an inflammatory process. The surrounding lung tissue shows evidence of extension of the inflammatory process from the bronchi. There is irregular involvement of the lung structures about the bronchioles with some patchy areas, especially in the lower lobes.

3. *Vascular and Perivascular Structures—Septic*

From the Department of Radiology, St. Louis University School of Medicine.
Presented at the 88th Annual Session of the Missouri State Medical Association, March 24, 25, 26, 1946, St. Louis.

Lobular Pneumonia.—Septic lobular pneumonia, blood-borne infection from some remote source, lodges in smaller lobules producing irregular blotchy areas of infiltration widely distributed throughout both lung fields; caused by streptococcus, anaerobic streptococcus, staphylococcus, septicemia and such. The blood-borne character of the infection is manifested by the wide distribution of perivascular foci of infection without reference to the bronchial structures.

4. *Lymphatic or Glandular Type of Pneumonitis* (seen in tularemia).—This starts in the lymphatics as lymph node infection and spreads by retrograde extension out into the lung. The glandular type of pneumonia occurs in association with the ulceroglandular type of tularemia. In this form there is, at the outstart, pronounced adenopathy of the hilum nodes in association with the glandular enlargement elsewhere in the body. Accentuated lung markings radiate outward from the hilum region into the lung field, possibly due to retrograde lymphatic spread. This is followed by areas of lobular infiltration at the periphery.

5. *Interstitial Pneumonitis—(Atypical Pneumonias).*

A. Virus Pneumonitis.—Hilar enlargement not due to adenopathy, accentuated lung markings radiate outward from the hilum region into the lung field. This is due to interstitial involvement, followed by areas of fine lobular infiltration in the parenchyma which may coalesce. The pathologic process seems to be essentially an interstitial pneumonitis; the enlarged hilar shadows and radiations extending out into the lung field are due to the advancement of the interstitial pneumonitis toward the periphery. Microscopically there is evidence of a very profound inflammation in the lung tissue itself. The cellular reaction is in the interstitial tissue of the lung; the alveolar walls are thickened and their cells are no longer flat but assume a cuboidal form showing many mitotic figures. The alveolar spaces are filled with gelatinous-appearing exudate almost devoid of inflammatory cells, containing only a few mononuclears. A thick hyaline membrane appears curled up about the edges of the alveoli; this is probably due to the action of the air on the gelatinous exudate. It is thought that this may play an important part in the production of the intense cyanosis so often seen in these individuals. This was the picture seen in influenzal pneumonia in the influenza epidemics of 1917-1918; a similar picture is produced by psittacosis and other virus infections which have been reported, such as:

1. Influenzal Pneumonitis—(epidemic influenza).[2, 3]

2. Psittacosis—(Parrot fever).[4, 5]

3. Mongoose (inoculation) virus (Weir and Horsfall.[6]

4. Mice (nasal inoculation) virus—(Eaton, Beck and Pearson).[7]

5. Undoubtedly many others.[8,9]

B. Rickettsial Pneumonitis.—*American Q Fever*—(the only proven rickettsial pneumonitis caused by Rickettsia Diaporica) was reported by Davis and Cox.[10] Microscopically, the picture is similar to interstitial virus pneumonitis. There is very little exudate in the alveolar spaces; a severe inflammatory reaction seems to affect the alveolar wall and interstitial tissues. The essential difference lies in the detection and identification of the specific microorganism, Rickettsia Diaporica.

C. Protozoal Pneumonitis.—1. Adult Toxoplasmosis (pneumonitis) caused by toxoplasma (as reported by Pinkerton and Henderson)[11, 12, 13] a protozoan of uncertain status usually classified with sporozoa; a pneumonitis of specific origin probably, but not definitely proven of rickettsial type.

Roentgenologically, the condition manifests itself as an acute active congestion with accentuation of the hilum shadows and lung markings radiating outward into the periphery of the lungs. This is followed within a few days by conglomerate areas of infiltration and blotchy consolidation throughout the lungs.

Microscopically, the picture is very similar to virus infection. There is an intense interstitial involvement with cellular reaction in the interstitial tissue, activation of growth of alveolar cells forming cuboidal epithelium with many mitotic figures. The alveolar spaces are filled with gelatinous exudate with the formation of a hyaline membrane about the edges and there are few inflammatory cells. There are in addition, however, large intracellular clusters of oval microorganisms found throughout the lung tissue and often throughout the other tissues of the body. Intraperitoneal injection of a guinea pig, however, yields the organisms which in this case are protozoa.

D. Drug Sensitization Pneumonitis.—Just what is the nature of this unusual reaction; why should it differ from other types of bacterial infection? I have observed a case which might throw some light on this question.

Microscopic examination was made of the lungs of an individual who died apparently as a result of sensitization reaction from sulphanilamide.[14] The patient received the drug for acute arthritis and not for any lung involvement. At autopsy Dr. Pinkerton found acute tubular nephritis. The microscopic picture of the lungs showed the presence of a gelatinous exudate in the alveoli with formation of a hyaline membrane similar to that seen in virus pneumonia. Other similar cases have occurred with other sulpha drugs. May not the reaction of the body to virus infection be in some way similar to a sensitization reaction?

E. *Undoubtedly Many Others of This Type.*—(a) thypus fever, and (b) Rocky Mountain spotted fever are complicated by pneumonia but this is

merely a complication of the disease and probably is not of rickettsial origin.

Thus the roentgen picture and undoubtedly the symptoms and course of lung infections are much affected by the structure involved.

Of even greater interest and significance is the indication that some of these organisms seem to produce different reactions in the lungs and other locations in the body, depending upon their method of inoculation. In a study of 81 cases of tularemic pneumonia at the St. Louis City Hospital,[15] two well defined types of involvement were noted, one associated with generalized glandular enlargement in which the pneumonic process was developed from spread through the lymphatic tissues; the other, in which there were large homogeneous areas of lung consolidation like lobar pneumonia without glandular or other lymphatic involvement. In analyzing the sources of infection in these as well as other reported cases in the literature, it became evident that the difference in bodily response to the tularemic organism might be due to the method of inoculation; in these cases in which the inoculation of the infection was from a wound followed by lymphatic involvement the lymphatic type of pneumonic spread could be reasonably expected, whereas, in those cases in which the inoculation of the organism was directly into the lung by inspiration the massive pneumonia type of lobar consolidation, without lymphatic involvement, could be expected to result.

In this regard, other instances have been observed also in which the manner of inoculation may determine the type of reaction to the disease. For instance, it has been known for some time that toxoplasmosis, infection of the brain and meninges of newborn infants, caused hydrocephalus which remained permanent or caused death without febrile reaction or any manifestation of pneumonic involvement. Yet Pinkerton and Henderson[11] discovered that this same protozoan organism if inoculated into the blood stream resulted in a most intense pneumonic involvement which caused death.

In other instances also, similar variations in response of the body to different methods of inoculation have been observed. For instance, lymphogranuloma venereum has been thought of as a purely venereal disease infecting most frequently the genitalia and surrounding pelvic parts of the female. Such cases are chronic and as far as I have been able to ascertain have never been associated with pneumonic involvement. And yet, I am told, that laboratory workers experimenting with cultures of this organism in a pharmaceutical laboratory have developed most intense pneumonic reaction from inhalation of these germs.

Bizarre appearances in the roentgenograms are often explained by the anatomic structures involved. The predilection of certain strains of organisms to attack specific lung structures may give rise to a characteristic appearance by which the type of infection may be recognized.[16] It has been observed that certain strains of organisms (notably hemolytic types of streptococcus) may attack the peripheral blood vessels of the lung producing periarteritis and thrombosis. This is manifested roentgenographically by the sudden appearance in the roentgenogram of multiple, thin walled, ringlike shadows in the periphery of the lung. Some may remain as rounded solid nodules and some may show partial excavation of their centers, but the majority appear as ringlike shadows with walls of uniform density and thickness. Microscopic examination of these areas in the lung reveals the vascular thrombosis and periarteriolar infection. These do not resemble ordinary infarcts such as those seen in the pulmonary arteries and are thought to be due to occlusion of the terminal branches of the bronchial arteries.

Strangly enough, although fluid levels may be noted, only rarely does suppuration occur. In one case which was autopsied no actual suppuration was noted. In most instances administration of a sulpha drug results in prompt control of the infection and the ringlike shadows soon disappear. Without sulpha drug therapy, however, they may result in suppuration.

The advent of chemotherapy, notably the sulpha drugs and penicillin, to combat infections has opened up an entirely new field in the treatment of lung infections. In general, it may be said that chemotherapy is most effective in acute bacterial infections readily accessible to the blood stream; that in virus and other atypical pneumonias, chemotherapy is ineffective. In this respect it must be said that the roentgen observations bear out the clinical findings. If lobar pneumonia is fully established, administration of chemotherapy which results in clinical improvement of the patient may show no change in the roentgen picture of consolidation; if, on the contrary, chemotherapy is instituted early in the early stage of consolidation it may result in checking the advance of consolidation and result in prompt complete resolution. Lobar pneumonia is too variable in its action however to be a real test of its effectiveness; septic lobular pneumonia associated with septicemia is a much more vital test. Formerly, without chemotherapy, such cases were almost invariably fatal; today cures are the rule rather than the exception. In the cases previously mentioned in which certain strains of streptococci have a predilection for the terminal bronchial vessels giving rise to ringlike shadows at the periphery of the lung as a result of thrombosis of these vessels, chemotherapy was found to be especially valuable in controlling the infection and causing disappearance of the rings.[16]

The appearance of such ringlike shadows is not necessarily dependent upon septic infection; any other condition which blocks the terminal bronchial blood vessels may give rise to similar ringlike structures. I have observed their sudden ap-

pearance in the course of a pulmonary tuberculosis as well as in malignant involvement of the lung.

Although these ringlike shadows occur at the periphery of the lung they are not of the same nature as emphysematous blebs and bullae. Emphysematous blebs and bullae remain distended with air because of the valvelike action which permits air to enter in inspiration and blocks the expression of air during expiration. These ringlike structures do not result from any such process and therefore disappear when the inflammatory exudate is absorbed.[17, 18]

This leads to a consideration of certain interesting observations which have been made on the behavior of emphysematous blebs or bullae and pulmonary cavities in general. Spontaneous pneumothorax from rupture of such emphysematous blebs has of course long been known but certain facts in the behavior of such blebs and bullae is not so clearly understood. Why for instance in some cases such emphysematous bullae should continue to form throughout the entire lung structure to the point at which they caused almost complete "vanishing" of the lung is hard to understand.[19] The appearance of such pneumatoceles following other inflammatory processes in the lung and even in association with other pyogenic processes elsewhere in the body cannot be explained readily. It would seem most logical that the formation of a valvelike action of some anatomic structure permitting air to enter but not to leave certain sections of the lung is the basis of the formation of all pneumatoceles. Why this condition should progress in certain young, perfectly breathing individuals to the point of almost complete vanishing of the lung is hard to understand.

The production of pleuropulmonary fistulae after spontaneous pneumothorax[20] in which no infection is involved and the method of dealing with such a complication often presents a problem. The problem hinges upon the mechanism by which this condition is produced and maintained. The accidental development of a more or less permanent fistula with spontaneous pneumothorax is probably due to the establishment of a larger opening in direct connection with a bronchiole. Such fistulae may remain for months or years resulting in persistent pneumothorax. In such instances in which the pneumothorax and fistula are of many months standing, lipiodol injected into the lung may be followed shortly by closing of the fistula and reexpansion of the lung. Probably the temporary clogging of the opening was sufficient to permit healing. It might be well to try such a simple expedient before resorting to more drastic methods. Cases of this type are sometimes very difficult to deal with however and may require dusting of the pleura with talcum powder to produce adhesions.

An intimate knowledge of the mechanical and physiologic phases of respiration will lead to a better understanding of the conditions found in the roentgenogram. This leads to speculation as to the influences which are brought to bear on the healing of cavities or other pneumatoceles and certain observations which tend to throw some light on the subject. Just what influence do our various therapeutic procedures have upon healing of cavities and just how do they operate? Does the induction of pneumothorax with collapse of the lung or the collapse of the chest wall from thoracoplasty result in healing of a cavity because of pressure exerted upon the cavity? There are some cavities in which a small amount of pneumothorax with slight lung collapse may result in complete disappearance of a cavity, whereas, in another instance an extreme degree of lung collapse from pneumothorax or even thoracoplasty could not produce any appreciable effect on the cavity. I am sure that many have observed cases in which a tension cavity on one side, varying in size from time to time, disappeared entirely as a result of thoracotomy or phrenicotomy or pneumothorax performed upon the opposite side. One is forced to the conclusion that the favorable influence exerted on cavities by mechanical methods of treatment is most likely the result of changing of the anatomic relationship of the structures of the surrounding lung.

One would think that in the case of lung abscess similar procedures, such as pneumothorax, might have a similar effect in causing collapse and healing of the defect but apparently this condition is associated with more rapidly growing virulent organisms and can be approached only from the surgical standpoint. Incidentally the advent of chemotherapy has not only reduced the mortality but the morbidity as well; in those in which chemotherapy is not effective operative procedure may be necessary. No longer do chest surgeons and clinicians wait for the abscess to become chronic, there is an ever growing tendency to operate in the acute stage (if chemotherapy is ineffective) before extensive damage can occur to the rest of the lung.

In recent years attention has been called to the fact that mediastinal emphysema may not be as unusual a condition as had formerly been supposed.[20] It is recognized in the roentgenogram as a transparent zone forming a halo around the heart. This is due to the air filling this section of the pericardial space. This can occur spontaneously as a result of the rupture of an emphysematous bleb into the interstitial tissues of the lung. Or it may result from trauma, air entering this space directly as from a penetrating wound, or indirectly as a result of subcutaneous emphysema or pneumothorax. Such conditions must be dealt with as they occur but there is one condition in which mediastinal emphysema occurs to which attention should be directed. Some pediatricians, thinking that severe dyspnea having its origin low down in the parenchyma of the lung will be relieved or benefited by direct intake of air into the trachea, have advocated tracheotomy in such cases with disasterous results.[21] The edges of the tracheotomy wound cannot be sealed off from the intake of air

and the dyspnea resulting from the lung pathology results in drawing in of air into the mediastinum with each inspiration. Continually pumped into the mediastinum, the air finds its way by the interstitial tissues to the lung, causing pressure pneumothorax and death. Surely tracheotomy should not be performed unless it is evident that it is due to tracheal obstruction above the opening so that it will immediately relieve the dyspnea, otherwise it is not only useless but hazardous.

Certain aspects of atelectasis should be considered. The occurrence of massive atelectasis with collapse of an entire lung as a result of severe trauma to the chest or abdomen, or as seen more frequently as a postoperative complication is familiar.[22] Recent articles advocating repeated postoperative bronchoscopy for aspiration of bronchial secretion as a method of relief of this condition have appeared in the literature. Some may not be familiar with the simple expedient of rolling the patient up onto the unaffected side and causing him to cough as a means of expelling the mucous secretion and reinflation of the lung. More significant developments in this regard are the observations that recurrent attacks of massive atelectasis occur from undernourishment or disease in debilitated infants who have been allowed to remain in one position on their backs for extended periods. Such infants may have "attacks" of atelectasis, relieved at once by change of position. Repeated attacks of transient atelectasis in an adult who is up and about must direct suspicion to the possibility of primary bronchial tuberculosis and bronchial granulations as the etiologic factor. In such cases, the finding of the tubercle bacilli in the sputum without demonstrable parenchymal lesion substantiates the diagnosis.

A similar appearing condition attendant with transient areas of consolidation as seen in the roentgenogram is eosinophilic pneumonia (Loeffler's syndrome).[23, 24] The occurrence of areas of transient consolidation associated with pronounced eosinophilia, even as high as 60 per cent over a period of many months, indicates that this condition exists. The small areas of consolidation are probably atelectatic in character due to allergic edema.

In recent years improvement in cultural methods for the growth of fungi has resulted in a better understanding of these infections. This is timely since these infections seem to be spreading in some parts of the country. Coccidioidol granuloma, for instance, which used to be considered as confined to the San Joaquin Valley is now prevalent throughout the southwestern section of the country, Southern California, Texas and Arizona. Fortunately it does not cause lasting disability except in a very small percentage of individuals; the principal thing is its proper recognition. Roentgenographically it resembles tuberculosis; the patients do not seem to be as sick as the degree of lung involvement would indicate and it usually ends in recovery.

Other rarer forms of lung infection may give concern in diagnosis but usually there is some attendant symptom or sign which leads to the identification of the etiology. Torula, for instance, is a very rare type of infection; it is represented by a dense area of homogeneous consolidation similar to lobar pneumonia but not conforming to a lobe, which remains without change for weeks and months. The development of meningeal symptoms gives the clue; examination of the spinal fluid will show large numbers of the yeastlike organisms.

The recent observation that many young individuals showing multiple calcified areas in the chest do not react to tuberculin but do react to tests for histoplasma is worthy of consideration.[25] As far as I know, no one has ever observed histoplasma infection of the lung through its healing stage to the development of calcareous deposits in the lung, and yet with the newer biologic methods of diagnosis coupled with mass roentgenography of the chest many things may be discovered which are not now evident.

Such a paper as this would be remiss if it did not mention certain developments in the hazards of industry. It has long been known that breathing of silica dust particles of sufficiently small size over a prolonged period of years may result in a fibrotic condition of the lung structure, known as silicosis. This may be a very disabling affliction which, once established, may be progressive, resulting in other intercurrent disease and death. Now there is a theory advanced that the admixture of aluminum dust may offset the ill effects of the silica itself.[26] If these claims are substantiated by the tests now being carried out they may prove a boon to workers in this hazardous field.

In the field of inhalation diseases, arc welder's siderosis must be mentioned.[27, 28] Up to the last few years there were many who doubted the existence of this condition feeling that any manifestation of disease in the lungs could not be due to iron particles but must be due to the effects of silica. Now there is demonstrated a fine mottled appearance almost resembling miliary tuberculosis throughout the lungs of arc welders which has been proven to be due to inhalation of microscopic particles of iron incident to the welding process; it does not cause fibrosis or disability and the lung fields clear gradually without fibrosis. The main thing is the recognition of the condition and its differentiation from the nodular form of silicosis.

The continual introduction of new materials into industry constantly introduces new potential hazards to the health of workers. Beryllium metal as an alloy and for other purposes has recently been demonstrated to have intense inflammatory effects on the skin and mucous membranes of the face, nose, eyes and throat.[29] Roentgenographically there is intense congestion of the bronchial structures with dense hilum markings radiating out into



The degree of orthopnea is a reliable aid
in the evaluation of cardiorespiratory impairment.
In chronic congestive heart failure,
as well as in emergencies, Searle Aminophyllin decreases
the myocardial burden and thereby improves the
efficiency of the contractions.
Administered orally, parenterally or rectally.

ACCEPTED
AMERICAN MEDICAL ASSN
Council on Pharmacy and Chemistry

AMINOPHYLLIN

contains at least 80% of anhydrous theophyllin. G. D. Searle & Co., Chicago 80, Illinois

SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

the lungs. No other condition gives the impression of such an intense irritating reaction. The hazards are known, however, and steps have been taken to avoid its ill effects.

The conditions mentioned here are varied and sundry, yet they serve to point out that in roentgenographic examinations of the chest one has most valuable means for the investigation and diagnosis of lung pathology; much has been accomplished but much more remains to be done. The present method of correlation of clinical, pathologic and radiologic findings will prove most successful for this purpose.

634 N. Grand Ave.

BIBLIOGRAPHY

1. Sante, L. R.: A Roentgen Ray Classification of the Pneumonias with Special Reference to the Tissues Involved, Missouri State M. J. **43**:44 (February) 1946.

2. Bowen, A. V.: Clinical Observations, Complications, and Treatment of Acute Upper Respiratory Tract Infections, Ann. Int. Med. **12**:317, 1938.

3. Allen, W. H.: Acute Pneumonitis, Ann. Int. Med. **10**:441, 1936.

4. Ellicott, V. L., and Halliday, C. H.: Psittacosis Outbreak in Maryland, December 1929, and January 1930, Pub. Health Rep. **46**:843, 1931.

5. Hoge, V. M.: Psittacosis in the United States, **49**:451, 1934.

6. Weir, J. M., and Horsfall, F. L., Jr.: Recovery from Patients with Acute Pneumonitis of a Virus Causing Pneumonia in Mongoose, J. Exper. Med. **72**:595, 1940.

7. Eaton, M. D.; Beck, M. D., and Pearson, H. E.: Isolation of a Virus from Four Cases of Atypical Pneumonia by Intranasal Inoculation of Mice, J. Bacteriol. **41**:58, 1941.

8. Longcope, W. T.: Bronchopneumonia of Unknown Etiology (Variety X), Bull. Johns Hopkins Hosp. **67**:268, 1940.

9. Kneeland, J. Jr., and Semtana, H. F.: Current Bronchopneumonia of Unusual Character and Undetermined Etiology, Bull. Johns Hopkins Hosp. **67**:229, 1940.

10. Davis, G. E., and Cox, H. R.: A Filter-passing Infectious Agent Isolated from Ticks; Isolation from Dermacentor Anderseni, Reactions in Animals and Infiltration Experiments, Pub. Health Rep. **53**:2259, 1938.

11. Pinkerton, H., and Henderson, R. G.: Adult Toxoplasmosis, Previously Unrecognized Disease Entity Simulating Typhus-Spotted Fever Group, J. A. M. A. **116**:807, 1941.

12. Pinkerton, H., and Weinman, D.: Toxoplasma, Infection in Man, Arch. Path. **30**:374, 1940.

13. Sante, L. R.: Roentgen Manifestations of Adult Toxoplasmosis, Am. J. Roentgenol. & Radiol. **47**:825, 1942.

14. Pinkerton, H.: Personal Communication.

15. Bihss, F. E., and Berland, H. I.: Roentgenological Manifestations of Pleuropulmonary Involvement in Tularemia, Radiol. **41**:431, 1943.

16. Sante, L. R., and Hufford, C. E.: Annular Shadows of Unusual Type Associated with Acute Pulmonary Infection, Am. J. Roentgenol. & Radiol. **50**:719, 1943.

17. Sante, L. R.: Cystic Disease of the Lung, Radiol. **33**: 152. 1939.

18. Pierce, C. B., and Dirkse, P. R.: Pulmonary Pneumatocele, Radiol. **28**:651 (June) 1937.

19. Burke, R.: Vanishing Lungs, A Case Report of Bullous Emphysema, Radiol. **28**:367, 1937.

20. Sante, L. R.: Roentgenological Manifestations of Injuries to the Chest, Minn. Med. **24**:819, 1941.

21. Forbes, G. B., and Salmon, G. W.: Mediastinal Emphysema and Pneumothorax Following Tracheotomy, J. Pediat. **23**:175, 1943.

22. Sante, L. R.: Massive (Atelectatic) Collapse of the Lung, With Special Reference to Treatment, J. A. M. A. **88**: 1539, 1927.

23. Loeffler, W.: Zur Differential Diagnose der Lungen in filtrierungen; über flüchtige Succedan—Infiltrate (mit Eosinophile), Beit. Z. Klin. d Tuberk. **79**:368, 1932.

24. Spector, H. I.: Loeffler's Syndrome, Dis. Chest **11**:3, 1945.

25. Palmer, C. E.: Non-Tuberculous Pulmonary Calcification and Sensitivity to Histoplasmine, Pub. Health Rep. **60**: 513 (May 11) 1945.

26. Denny, J. J.; Robson, W. D., and Erwin, D. A.: Prevention of Silicosis by Metallic Aluminum, Canada Med. A. J. **40**:213, 1939.

27. Enzer, N., and Sander, O. A.: Chronic Lung Changes in Electric Arc Welders, J. Indust. Hyg. & Toxicol. **20**:333, 1938.

28. Sander, O. A.: Further Observation on Lung Changes in Electric Arc Welders, J. Indust. Hyg. & Toxicol. **26**:79, 1944.

29. Shilen, J.; Galloway, A. E., and Melor, J. F. Jr.: Berrylium Oxide from Beryl, Indust. Med. **13**:464, 1944.

ABSTRACTS AND DIGESTS

TUBERCULOSIS ABSTRACTS

Issued Monthly by the National Tuberculosis Association. Vol. XIX, No. 12, December, 1946.

THE PSYCHOLOGICAL MOMENT IN THE TREATMENT OF TUBERCULOSIS

The growing importance of preventive medicine and the wider recognition of emotional problems in illness emphasize the teaching role of the modern medical man. This is no new responsibility for physicians, though many have been inclined to forget it during a period when scientific discoveries have dominated the medical scene. The physician always deals with more than a collection of organs in varying degrees of dysfunction. He is concerned with a human being.

This human being who comes with his questions and his needs to the physician requires first of all, a diagnosis—that is a recognition and an evaluation of his physical state. Diagnosis may be difficult or easy. But even as the symptoms are being elicited, the physician is already seeking the facts and making the observations which will guide him when he acquaints the patient with the situation and prepares him for whatever treatment is necessary. It is then that the doctor functions primarily as a teacher and a friend. It is at this time that he may utilize to advantage the principles and practices of education.

"There is a tide in the educational life of a child or of an adult," says one educator, "when one is in a position to learn efficiently and rapidly. Leaders watch for these *teachable moments* and utilize them to their fullest." The teachable moment is also called the psychological moment.

The time at which the physician acquaints the patient with his diagnosis, especially when it is that of a chronic disease such as tuberculosis, is such a moment. It is then that the fearful patient listens intently in order that no word of the physician, no implication of his tone or manner will escape notice or be given less than its true importance. It is often, at this time, that the foundation is laid for a successful recovery from tuberculosis. Sometimes, unfortunately, the opportunity is wasted, with disastrous consequences.

To assemble the facts, to weigh the possibilities, to help the patient face the reality and to be ready with constructive plans, calls for great skill on the part of the physician. He must make sure that the implications of the diagnosis are understood, yet he must be as optimistic as the facts warrant. He must stress the necessity for a drastic change in the life and plans of the patient, yet never proceed faster than the patient is ready to go along with him in his thinking. If handled hurriedly or casually, the patient may refuse to accept the diagnosis; he may delay or postpone treatment; or he may undertake his cure in so rebellious or apathetic

a spirit that he nullifies the best efforts of the hospital and medical staff. What happens to an individual tuberculosis patient is often determined by the attitudes and teaching of the physician who first makes the diagnosis. It is then that treatment really begins. In tuberculosis the sequence of diagnosis, treatment and rehabilitation should always overlap and be woven together as a well-spliced rope.

What is the duty of the physician to the man or woman on whom he makes a diagnosis of pulmonary tuberculosis? It depends on his findings in the individual case. If the patient has active tuberculosis, it should be discussed as a communicable disease. With full consideration for the patient's intelligence, and temperament, the physician should tell the patient that he has tuberculosis. He should not overestimate nor underestimate; he should give the patient the facts as he then sees them.

It is quite possible, by properly taken stereoscopic pictures, to determine almost exactly how much tuberculosis the patient has. It is quite impossible by X-ray pictures alone to establish the degree of clinical activity, perhaps the most important aspect of the prognosis. The patient should be told that only after consideration of clinical and laboratory findings, of constitutional symptoms, and of his response to treatment as shown by the X-ray can any estimate of the length of time required for treatment be made.

Time does not usually permit the physician who makes the diagnosis to educate the patient in matters of tuberculosis. He should, however, never dismiss the patient without making sure that he has accepted the necessity for treatment. Until this acceptance is obtained, progress along other lines should not be attempted. This may take time, and the help of the public health nurse and the social worker. A confirmatory diagnosis by a tuberculosis specialist may be required. But until hospital treatment is initiated the patient is under the care of the physician who made the diagnosis. The responsibility for sound and careful guidance, for the protection of the family and for interim treatment rests with him.

Once the patient is in the sanatorium, he is the responsibility of the sanatorium physician who becomes his patient's instructor in health problems. Only as the patient understands the character of the disease that he is fighting will he know why it is necessary for him to follow closely a definite program, foregoing seemingly harmless pleasures and avoiding undue activity.

An understanding of the tuberculosis hospital will help the private physician in preparing his patient for treatment there. It will also enable him to give more effective counsel when the patient returns from the hospital. The need of periodic check-ups persists in all "cured" cases of tuberculosis even after economic independence and normal life has been attained.

The patient whose cooperation is enlisted at the time of the diagnosis is apt to become a good hospital patient. Moreover, such patients usually not only do better under treatment but are more successful in staying well after discharge. The foundation for successful treatment in tuberculosis is laid when the doctor tells the patient that he has the disease. Psychologically, medically and economically, this may well prove to be the biggest moment in the patient's life.

The Psychological Moment in the Treatment of Tuberculosis, J. D. Riley, M.D., American Review of Tuberculosis, October-November, 1946.

BOOK REVIEWS

MEN WITHOUT GUNS. Text by DeWitt Mackenzie, War Analyst of The Associated Press. Descriptive Captions by Major Clarence Worden, Medical Department of the United States Army. Foreword by Major General Norman T. Kirk, Surgeon General of the United States Army. Illustrated with 137 plates from the Abbott Collection of Paintings owned by the United States Government. Philadelphia. The Blakiston Company. Toronto. 1946. Price $5.00.

Fortunately it was possible to review this book in conjunction with the showing of the original collection of paintings reproduced therein which were on exhibition at the Nelson Art Gallery, Kansas City, from May 5 to May 29. This group of paintings is known as the Abbott collection.

This collection covers various phases of the work of the medical corps ranging from the battle front to physiotherapy. The collection has been presented to the United States Government and after a tour of the country is to be housed permanently in Washington, D. C.

Knowing nothing of art and still less of contemporary American artists, and apt to refer to an oil painting as a "picture" this pseudo-critic has no background other than personal likes and dislikes for their review.

The bulk of the subjects is from the Pacific. The weird array of greens and blues with grotesque shadows, such as "Moonlight in Burma" by Howard Baer, or "Shock Tent" by Robert Denny, achieve an eerie, unreal atmosphere to one who was not there.

A number of subjects are from the African-Italian campaign, "Company in the Parlor" by Joseph Kirsch being one of the most striking in the collection. The Normandy invasion group is faithful in detail—and too few in number. "Sunday in Normandy" by Lawrence Beall is particularly impressive. The last group covers the work in the United States and "Night Rendezvous" by Robert Benney, depicting the unloading of a hospital train somewhere on the cold, wind swept plains of Kansas, is my favorite.

A few of the pictures have humor, some are mere factual records, but the majority have a grim pathos arising from the tragedy portrayed. Contrasted to the seriousness of the collection as a unit were some of the flippant remarks by thoughtless observers, fortunately in the minority.

The paintings suffer definitely in reproduction, particularly the Pacific scenes, which are much darker than the originals. A preface devotes about 750 words to a description on each campaign. A foreword is given by Surgeon General Kirk. The book has no professional significance, being merely a graphic record of the work of the medical corps, and is of as much interest to the general public or enlisted man as to the doctor. **G. P.**



AGAIN IN 1946

"the best form of treatment"

"...gold salts...afford the best form of treatment in rheumatoid arthritis" and "...will markedly change the course of the disease in a significant percentage of patients."[1]

SOLGANAL-B OLEOSUM (aurothioglucose) continues to be one of the most widely used gold compounds because it provides maximum therapeutic benefits with minimal toxicity.

SOLGANAL-B OLEOSUM

In SOLGANAL-B OLEOSUM ($C_6H_{11}O_5SAu$) water soluble gold is suspended in oil solution to provide steady, even and prolonged absorption from intramuscular depots. In this form gold has benefited approximately four out of every five patients afflicted with rheumatoid arthritis.

Details of administration accompany each package of SOLGANAL-B OLEOSUM; or they may be obtained by writing the Medical Research Division.

1. Ragan, C., and Boots, R. H.: New York Med. 2:21, 1946.

Trade-Mark SOLGANAL-B OLEOSUM—Reg. U.S. Pat. Off.

SCHERING

Schering CORPORATION · BLOOMFIELD, N. J.

IN CANADA, SCHERING CORPORATION LIMITED, MONTREAL

THE JOURNAL
of the
Missouri State Medical Association

623 Missouri Bldg. Telephone: Newstead 0404-05

Subscription - - - - $3.00 a year in advance

Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent.

DECEMBER, 1946

EDITORIALS

ANNUAL SESSION, 1947

The Missouri State Medical Association will hold its Eighty-ninth Annual Session in Kansas City from March 30 to April 2, 1947. Plans for the Session are progressing, the program is being arranged and, combined with the hospitality always tendered by the Jackson County Medical Society, the meeting should be an excellent one. The program will be more extensive and elaborate than for several years because it is possible this year, for the first time in several years, to obtain outstanding out of state physicians of the country to appear on the program.

It is planned to include scientific exhibits in the Session this year and members are requested to notify the secretary concerning exhibits which they wish to present, giving a description of the exhibit and the amount of space necessary for its presentation.

While the program is nearing completion, a few papers can still be accepted and any member wishing to contribute in the scientific program is asked to send a two hundred word synopsis of the paper to the Association office.

The General Committee on Arrangements for the 1947 Annual Session is composed of C. Edgar Virden, M.D., Kansas City, Chairman; R. W. Kennedy, M.D., Marshall, and H. E. Petersen, M.D., St. Joseph.

MEDICAL SKILLS AND RESOURCES OF THE NATION

The letter which follows, from the American Medical Association Committee on National Emergency Medical Service, has been sent to every physician who served in the armed forces together with a questionnaire. It is hoped that all physicians receiving the questionnaire will complete it and send it back in the stipulated time. Such information as is requested may go a long way toward solving the mistakes that were made in the handling of medical personnel during World War II just as the information received by the Committee on Medical Preparedness greatly helped to eliminate many of the mistakes which were made during World War I. One of the worth-while accomplishments was the creation of the Procurement and Assignment Service. Please fill out the questionnaire and return it as soon as possible. The letter follows:

"Dear Doctor:

"The House of Delegates of the American Medical Association, December, 1945, created a committee to study the over-all needs and utilization of medical skills and resources of the nation in the case of an emergency. The House passed the following resolution:

" '—that the Association undertake a critical study of the duties of medical officers during the war just passed, with special reference to (1) opportunities for study, research and actual treatment of the sick, (2) rotation of medical assignments, (3) quasi-medical duties for which technicians and specially trained enlisted personnel might replace physicians—'

" '—and appoint a Special Committee to study by means of questionnaires sent to medical officers on release from active duty—'

"The Board of Trustees has appointed a National Emergency Medical Service Committee and instructed them to undertake the study and prepare plans as described in the Action of the House of Delegates.

"A pilot questionnaire was sent to 1,000 former medical officers selected at random. The response was surprisingly large; 470, or 47 per cent of these questionnaires were carefully filled out and returned. Certain technical defects in the pilot questionnaire form were noted and the revised questionnaire enclosed herewith was developed. It is being sent to all former medical officers, including those who received the pilot questionnaire.

"The Committee is a fact finding board and hopes to make recommendations that will lead to better utilization of medical skills and resources in a future emergency. Your help in this will be appreciated. A stamped envelope is enclosed for your early return of the completed questionnaire. You are cordially invited to write a covering letter if the questionnaire has omitted points which you deem significant.

"For the Committee,
"(Signed) GEORGE F. LULL, M.D.,
"Secretary and General Manager,
"American Medical Association."

RURAL MEDICAL SERVICE

The Committee on Rural Medical Service of the Missouri State Medical Association has been active during the last year and has worked in close cooperation with the Missouri Farm Bureau Federation in attempting to improve the health of the rural citizens of the state. That various rural and farm organizations are seeking the guidance of the medical profession to improve the health services in their communities is shown in an editorial

in the November 2 issue of *The Journal of the American Medical Association.* The organizations are cooperating through their committees, in initiating health educational programs and enrollment in prepayment plans on a local basis. The editorial states:

"The Committee on Rural Medical Service of the American Medical Association at its meeting in San Francisco on June 30 reported that 31 state medical societies had made progress toward establishing rural health committees and formulating medical society sponsored plans to improve rural health and to provide for voluntary prepayment against costs of illness. The Council on Medical Service and the Rural Medical Service Committee held additional meetings in September, emphasizing the interest of the medical profession in leading movements to improve the health services of rural communities. Significantly, committees formed by various rural organizations in the states to develop plans for health services have been interested in the point of view of the medical profession; leaders of national farm organizations are seeking the guidance of medical agencies. The major farm organizations are cooperating in the development of rural health programs. Through their committees they are initiating health educational programs and enrolment in prepayment plans on a local basis.

"Joint meetings of rural health service committees of state medical societies and committees on rural health service of farm organizations have been reported by several states and are being planned by others. The discussions center around farm health needs, health facility surveys, medical personnel, an adequate public health and sanitation program, health education in the schools, dental health needs, health legislation, hospitals as memorials to war heroes and what has been done for rural medical care in other states. Minimum standards for each type of health service need are being considered by state and national committees to serve as a guide, not to tell the local people what to do but to point out a way in which it may be done when once a decision has been reached.

"The report from the physicians' rural health service committee of Minnesota states that 'if the presence of a physician in the community is to have the full effect in rural medicine, we must also have suitable homes for our rural families, balanced diet for the promotion of healthy growth and the maintenance of vigorous bodies. Knowledge of good living habits, instructions for expectant mothers, infant care, the home management of common ailments and first aid are most important and full confidence in and proper utilization of facilities for hospital and medical care that are at hand.'

"From Indiana comes the suggestion that hospitals might be extended into rural areas by inviting physicians in villages around hospitals to the courtesy staff. Thus they could attend staff meetings, bring their patients for consultation or diag-

MILWAUKEE SANITARIUM

WAUWATOSA, WISCONSIN

FOR NERVOUS DISORDERS

(Chicago Office—1117 Marshall Field Annex Wednesday, 1-3 P. M.)

Maintaining the highest standards for more than a half century, the Milwaukee Sanitarium stands for all that is best in the care and treatment of nervous disorders. Photographs and particulars on request.

Josef A. Kindwall, M.D.
Carroll W. Osgood, M.D.
William T. Kradwell, M.D.
Benjamin A. Ruskin, M.D.
Lewis Danziger, M.D.
Russell C. Morrison, M.D.
E. Madison Paine, M.D.
H. Gladys Spear, M.D.
Arthur J. Patek, M.D.

G. H. Schroeder, *Business Manager*

COLONIAL HALL—*One of the 14 Units in "Cottage Plan."*



nosis and care for their patients within the limits of their experience.

"The problem of the farm family with low income in obtaining and paying for medical care might be solved by securing enrolment of farmers in a prepayment plan when income is relatively high. In some areas state and local welfare agencies may prepay the premiums of the indigent, and the state and local taxing units may be approached for part of the premium for low-income families."

NEWS NOTES

A Springfield Unit of the Missouri Division of the American Cancer Society was organized on October 24 under the sponsorship of the Greene County Medical Society and the Women's Field Army of Springfield. Officers were elected and work for the year was outlined at the meeting.

A postgraduate course in thoracic diseases is being sponsored by the American Trudeau Society in cooperation with the University of Wisconsin. The course will be presented at Madison, Wisconsin, from March 3 to 8, 1947. Maximum registration will be thirty and a fee of $50.00 will be charged. Applicants should write to Cameron St. C. Guild, M.D., Executive Secretary, American Trudeau Society, 1790 Broadway, New York 19, New York. Dr. Herbert L. Mantz, Kansas City, is a member of the regional subcommittee for Ohio, Indiana, Michigan, Illinois, Wisconsin, Missouri, Iowa and Minnesota.

At the Centennial Session of the American Medical Association to be held in Atlantic City, June 9 to 13, 1947, the Scientific Exhibit will include both the history of medicine during the last century and the latest developments of medical science. Applications close on January 13.

Frank G. Dickinson, Ph.D., formerly associate professor of economics at the University of Illinois, has accepted the position of economist and Director of the Bureau of Medical Economic Research of the American Medical Association. He succeeds Dr. R. G. Leland, retired, who had served as Director of the Bureau of Medical Economics since it was established in 1931.

Y. Fred Fujikawa, M.D., Mount Vernon, has been made a fellow of the American College of Chest Physicians.

H. L. Mantz, M.D., Kansas City, was named president of the Missouri Tuberculosis Association, at a meeting in St. Louis on October 18. Newell R. Ziegler, M.D., Columbia, was elected first vice president, and Howard Miller, M.D. Macon; E. E. Glenn, M.D., Springfield, and Paul Murphy, M.D., St. Louis, were named to the executive committee. Honored for meritorious service were Drs. Jesse E. Douglas, Webb City; L. J. Schofield, Warrensburg; W. L. Gist, Kansas City, and James Stewart, Jefferson City.

Paul Murphy, M.D., St. Louis, was elected president-elect of the Missouri Chapter of the Trudeau Society at a meeting in St. Louis on October 19. D. L. Coffman, M.D., Kansas City, was elected secretary-treasurer, and G. D. Kettelkamp, M.D., Koch, and E. E. Glenn, M.D., were elected to the executive committee.

Brig. Gen. Wallace H. Graham, M.C., has been awarded the Order of Orange Nassau with Swords by the Netherlands government in "recognition of exceptional courage and humanitarian feelings demonstrated during operations in Holland in 1944" while he was chief of the surgical section of the 24th Evacuation Hospital with the 101st and 82nd Airborne Forces. He has also been awarded the Cross of Officer of the Order of Leopold with gold Palm and Belgium War Cross with Palm by the Belgian government.

Frank R. Teachenor, M.D., Kansas City, has been elected president of the Harvey Cushing Society, national neurosurgical organization.

J. Archer O'Reilly, M.D., St. Louis, has been named chairman of the board of the Missouri Society for Crippled Children.

Frank R. Bradley, M.D., St. Louis, has been installed as president of the American College of Hospital Administrators.

DEATHS

Allee, Gail D., M.D., St. Louis, a graduate of Marion-Sims College of Medicine, 1898; chief medical officer of the Veterans Administration hospital at Fort Leavenworth, Kansas, until his retirement in April, 1946; Fellow of the American Medical Association; member of the Barton County Medical Society; aged 70; died July 30.

Young, H. McClure, M.D., Columbia, a graduate of Washington University School of Medicine, 1908; Fellow of the American Medical Association; member of the Boone County Medical Society; aged 69; died August 12.

Greditzer, Harry G., M.D., St. Louis, a graduate of Washington University School of Medicine, 1912; member of the St. Louis County Medical Society; aged 57; died September 27.

Hunt, Paul F., M.D., Kansas City, a graduate of the University of Kansas School of Medicine, 1926; Fellow of the American Medical Association; member of the Jackson County Medical Society; aged 49; died October 13.

Bonnot, Edmond, M.D., St. Louis, a graduate of St. Louis University School of Medicine, 1908; member of the St. Louis Medical Society; aged 70; died October 13.

Snider, Joseph Scott, M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1900; Fellow of the American Medical Association; honor member of the Jackson County Medical Society; aged 70; died October 29.

Seidlitz, George Newman, M.D., a graduate of the Hahnemann Medical College and Hospital, Chicago, 1884; honor member of the St. Louis Medical Society; aged 85; died November 5.

PALATABILITY AND NUTRITION FACTORS of Campbell's STRAINED BABY SOUPS



Q. What is the importance of palatability?

A. A leading pediatrician has pointed out that even in the early months of life infants are able to detect minute differences in flavor. The appealing palatability of Campbell's Strained Baby Soups is, therefore, an advantage. It should further be pointed out that all the "tastes" in these soups are the wholly natural ones of the meats, vegetables and cereals used.

Q. Why are the different ingredients selected?

A. Campbell's Strained Baby Soups are planned to provide a balance in nutrients to supplement the daily milk diet. Since it takes many different foods to supply the approximately 40 nutrients needed for infant development and energy, we use vegetables and a cereal in preparing each of the four meat soups. Flavor is improved, too. For instance, liver alone has too strong a taste for some babies, but blended with vegetables, palatability is enhanced. It should also be noted that these soups are intended for use as early in normal infancy as any other strained baby foods.

Q. What measures are taken to conserve food constituents?

A. In preparing these Baby Soups, Campbell's have developed a method, based on the latest scientific knowledge, which retains the minerals and efficiently conserves the vitamins.

A comprehensive analysis of each soup may be had upon request to Campbell Soup Company, Camden, New Jersey.

5 KINDS:

CHICKEN
BEEF
LAMB
LIVER
VEGETABLE

All in Glass Jars





Campbell's Strained Baby Soups represent fine quality . . . in ingredients . . . in care and method of cooking . . . in retention of minerals and conservation of vitamins . . . *and in good flavor.* Every resource of Campbell's Kitchens is devoted to that aim.

LOOK FOR THE RED-AND-WHITE LABEL

SOCIETY PROCEEDINGS

SECOND COUNCILOR DISTRICT

W. F. FRANCKA, HANNIBAL, COUNCILOR
Randolph-Monroe County Medical Society

The Randolph-Monroe County Medical Society met in Moberly, November 14, with thirteen members present.

Mr. Raymond McIntyre, Field Secretary of the Missouri State Medical Association, explained a plan for reactivating county medical societies by hyphenating several into one.

D. D. Stuart, M.D., Brunswick, and G. W. Hawkins, M.D., Salisbury, representing the Chariton County Medical Society, officially voted to hyphenate with Randolph-Monroe County Medical Society. The Randolph-Monroe County Medical Society unanimously voted to accept the hyphenation.

Paul F. Fletcher, M.D., St. Louis, spoke on "Common Obstetric Problems Met in General Practice." He also showed a film presenting a new operative technic for correction of complete prolapse of the bladder and vagina.

F. A. BARNETT, M.D., Secretary.

SIXTH COUNCILOR DISTRICT

R. W. KENNEDY, MARSHALL, COUNCILOR
Saline County Medical Society

The Saline County Medical Society met at the Country Club, Marshall, on Tuesday evening, October 22. An excellent dinner preceded the scientific program.

M. Pinson Neal, M.D., Columbia, spoke on the subject, "Diagnoses Commonly Missed in the General Practice of Medicine." An interesting discussion followed this practical presentation.

Mr. Ray McIntyre, Field Secretary of the Association, discussed briefly some of the public educational activities of the State Association.

Twenty-three physicians attended the meeting including a good number from Cooper and Lafayette counties.

JOHN R. LAWRENCE, M.D., Secretary.

NINTH COUNCILOR DISTRICT

E. C. BOHRER, WEST PLAINS, COUNCILOR
South Central Counties Medical Society

The South Central Counties Medical Society met for a dinner meeting at the Antlers Cafe in Mountain Grove at 7:00 p. m. on October 18. The following members and visitors were present: Drs. R. A. Ryan, R. W. Denney, H. G. Frame and A. C. Ames, Mountain Grove; L. M. Edens and Garrett Hogg, Cabool; R. T. Harsh, Houston; C. T. Callihan, Willow Springs; E. C. Bohrer, Roland H. Smith and A. H. Thornburgh, West Plains; T. E. Ferrell and W. P. Maddux, Springfield; H. B. Melchert and W. W. Courtright, Springfield.

After dinner the meeting was transferred to Dr. Ryan's office where Dr. Mott called the meeting to order and the minutes of the last meeting were read and approved; also a financial report was given.

Mr. Schmidt introduced Dr. Melchert who explained the arrangements made by the Veterans Administration for giving veterans medical examinations and treatment and hospital care and answered questions arising in the minds of those present and cleared up the subject generally, which was much appreciated. A vote of thanks was given.

Dr. Ferrell presented a paper on "The Causes and Diagnosis of Rectal Bleeding."

Dr. Maddux delivered a paper on "Treatment of the Cardiac Patient." Both speakers received a vote of thanks and were invited to come to meetings again.

The meeting adjourned to meet at Cabool on November 15.

Meeting of November 15

The South Central Counties Medical Society held a dinner meeting at the ElPatio Hotel in Cabool on November 15 with the following members and visitors present: Drs. J. R. Mott, Hartville; J. A. Fuson, Mansfield; R. W. Denney and A. C. Ames, Mountain Grove; L. M. Edens and Garrett Hogg, Cabool; C. F. Callihan, Willow Springs; Deborah Doan, Bakersfield; Eugene J. Schwartz and A. Denton Vail, Springfield.

After dinner the meeting was called to order by the president, Dr. J. R. Mott, and the minutes of the last meeting were read and approved and some literature from the National Foundation for Infantile Paralysis was distributed.

Dr. Schwartz gave an interesting talk on "Immunization of Children," clearing up some of the latest views of the subject of disease prevention.

Dr. Vail discussed "Malignant Growths of the Colon" and showed slides and specimens illustrating the subject.

A vote of thanks was given the speakers and the meeting adjourned to meet in Mountain Grove on December 20.

A. C. AMES, M.D., Secretary.

TENTH COUNCILOR DISTRICT

PAUL BALDWIN, KENNETT, COUNCILOR
St. Francois-Iron-Madison-Washington-Reynolds County Medical Society

The St. Francois-Iron-Madison-Washington-Reynolds County Medical Society met October 31 at the State Hospital in Farmington with sixteen members present. Guests were Dr. Bernard Sinner and Mr. Raymond McIntyre, St. Louis.

Dr. Sinner presented an excellent talk on "The Emergency Treatment of Extensive Burns." This was discussed by several members present, particularly those who had had considerable experience with burns in recent military service.

Mr. McIntyre spoke to the Society regarding several problems now confronting organized medicine.

At the business meeting there was a full discussion regarding the proposed new hospital in St. Francois County. It was agreed that with the addition to be added to the Bonne Terre Hospital that hospital facilities in this district would be adequate. By a unanimous vote of all the members present a statement was approved opposing the bonding of the county for the hospital and this statement was submitted to the newspapers of the county for publication.

VAN W. TAYLOR, M.D., Secretary.

MISCELLANY

REENLISTMENT AND EMPLOYMENT OF VETERANS

National Commander Paul H. Griffith of The American Legion, in a letter to Secretary of War Patterson, has commended the War Department for reenlisting disabled veterans, and made the suggestion that other branches of the armed forces follow suit.

Hailing the recent move as "just recognition of the employability of the physically handicapped," Commander Griffith urged similar action by all civilian



In Any Place
At Any Time

Routine testing of the urine for sugar becomes a vital procedure in the daily life of many diabetic patients.

Clinitest is so simple, so convenient, so speedy, that it can be used indoors or outdoors, in the washroom of a train, service station or elsewhere, with no more inconvenience than in the privacy of a home.

CLINITEST

Tablet—No Heating—Urine-Sugar Test



Plastic Pocket-Site Set (No. 2106) Includes all essentials for testing.

Complete information upon request. Distributed through regular drug and medical supply channels.

AMES COMPANY, Inc.
ELKHART, INDIANA

employers as well as the Navy, Coast Guard and government agencies.

"It is only fitting that first acknowledgment of the ability of these men to continue to serve in peace the country for which they gave so much in war should come from the armed forces," the National Commander said.

The War Department opened Army ranks to disabled veterans following a plea from Richard Montgomery, 29, of Pittsburgh, Pa., former Air Force master sergeant who lost his left forearm in Pacific combat. Army personnel officers said they expected about 5,000 disabled veterans to reenlist. They will be assigned to jobs they can perform efficiently despite their disability.

Commander Griffith described the ruling as "a priceless morale lifter for the thousands of handicapped veterans whose job potentialities the American Legion has sought to bring before the public."

The Legion currently is promoting nationwide showings of its own film, "No Help Wanted," a factual presentation of the employment capabilities of the disabled.

CANCER CLINICS AT THE ELLIS FISCHEL STATE CANCER HOSPITAL

The schedule of clinics at the Ellis Fischel State Cancer Hospital, Columbia, for December and January, to which all members are invited, beginning at 1:00 p. m. each clinic, follows:

December 4: Miscellaneous.
December 6: Gynecologic and Genitourinary.
December 11: Skin.
December 13: Breast.
December 18: Gastrointestinal.
December 20: Cervix.
December 25: No clinic. Holiday.
December 27: Head and Neck.
January 1: No clinic. Holiday.
January 3: Gynecologic and Genitourinary.
January 8: Skin.
January 10: Breast.
January 15: Gastrointestinal.
January 17: Cervix.
January 22: Skin.
January 24: Head and Neck.
January 29: Bone and Lymphomas.
January 31: Miscellaneous.

BOOK REVIEWS

Textbook of Neuroanatomy, A. By Albert Kuntz, Ph.D., M.D., Professor of Micro-Anatomy in St. Louis University School of Medicine. Fourth Edition, thoroughly revised. Illustrated with 325 Engravings. Lea & Febiger. Philadelphia. 1945. Price $6.50.

This new edition of a widely used textbook of neuroanatomy presents a revised and partially rewritten text, with additional recent data, particularly regarding the diencephalon, basal ganglia and extra-pyramidal system. Its illustrations are profuse, clear and well labeled; its text is concise and complete, at times too detailed for the average student although this adds to its value as a reference book. Compact summaries at the end of each chapter are a valuable asset to this excellent textbook. W. P. W.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

THE PRESIDENT'S MESSAGE

It has been my privilege to visit more of our County Auxiliaries—Miller, Moniteau, Morgan and Cape Girardeau. These are splendid auxiliaries and each is doing its part in carrying out the state program. My personal contact with the different groups has been of great value to me.

Mrs. W. L. Allee, our President-elect, and I will attend the conference in Chicago, December 11 and 12.

Let us not forget that *Hygeia* makes a fine Christmas gift and serves as a monthly reminder of the donor.

As Christmas approaches, we meditate on the birth of Christ with the promises of "peace on earth and good will toward man." Representatives of fifty-odd nations are striving to bring these promises to complete realization. They must not fail. We should pray for the success of United Nations to establish everlasting peace.

At this time we are less self-centered and more concerned with trying to help others. Our motto, "Service with Happiness," is in harmony with the spirit of Christmas. Let us carry this thought in mind as a stimulus throughout the year.

It is not possible to send individual Christmas messages to each member, so this printed word expresses greetings and sincere good wishes for a Merry Christmas and Happy New Year to each of you from your president.

MRS. WALTER E. KOPPENBRINK.

ATTENTION DOCTORS

Does your wife belong to the Auxiliary?

If she does not, will you ask her to join us?

Every physician's wife, should be a member, a member well informed on the scientific and economic problems of the medical field.

Public opinion is quite fluent on this matter, and we as Auxiliary members must try to educate the public along these lines.

The good will and close fellowship that our Auxiliary has created among all members and their families should make it worth belonging.

If you have no Auxiliary in your County, help us organize by sending in the names of your members' wives. Your wife can be one of our members-at-large until you do have an Auxiliary.

Help us surpass our goal of 1,000 members by every physician's wife being a member of the Auxiliary, and then we can truly live up to our motto—SERVE WITH HAPPINESS.

MRS. JOHN O'CONNELL,
Organization Chairman.

Hygeia

Do you know that:

Hygeia prints authentic health information?

Hygeia serves as text and reference book?

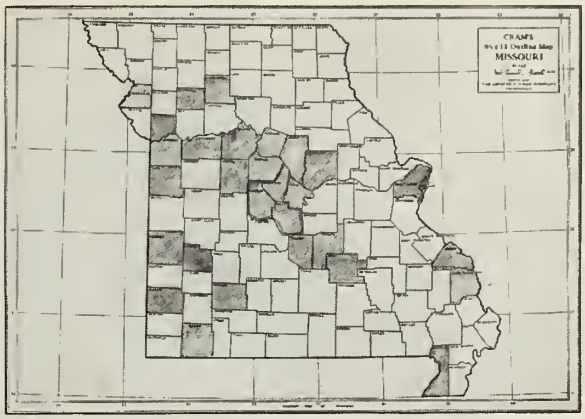
Hygeia gives health information but each article emphasizes the intrinsic value of your family physician?

Hygeia is an aid to public relations?

One year's subscription costs $2.50? Physicians' and Dentists' rates are one year $1.25, three years $3.00?

Why not give your friends the best health magazine for a Christmas gift?

MRS. HARRY M. GILKEY,
Hygeia Southern Regional Chairman.



Darkened counties are organized.

The magic white city of Miami welcomed the Southern Medical Association and the Woman's Auxiliary with true southern hospitality. The waving palms, the silver sand beaches and the beautiful blue Atlantic with its gentle white cap waves washing its shores seemed out of this world. One week in this garden spot was not enough to see all its wonders.

The Auxiliary was called to order by its charming president, Mrs. W. W. Potter, on Tuesday at 10:30 a. m.

Dr. Harrison Shoulders gave an inspiring address. He said that the women of the Auxiliary could help by (1) being well informed to educate the public; (2) preserving freedom of choice in everything; (3) having a wider scope in welfare.

At the annual luncheon held in the Biscayne Room of the Columbus Hotel, Mrs. Potter introduced Dr. Herbert Acuff of Knoxville who gave a most informative address on cancer problems of the South bringing out the following points: (1) lack of education because of sparsely settled regions and long areas between cities; (2) illiteracy (one of every ten cannot read or write); (3) the large Negro population with illiteracy and superstition; (4) lack of enough welfare clinics. He stated that one out of eight persons die of cancer and that cancer kills more children from 5 to 19 years of age than do poliomyelitis, typhoid and paratyphoid fever, malaria and scarlet fever combined. He suggested as a solution (1) detection centers, (2) diagnostic clinics, (3) treatment centers. Is this not a great challenge to get busy in our own communities and see what can be done to start detection clinics?

Mrs. Jessie D. Homer, president of the Woman's Auxiliary to the American Medical Association, gave a fine address. She stressed our second objective, friendliness, and said "the whole world needs unity and we can increase our usefulness through unity."

Mrs. George Thiele, Missouri's councilor, gave a fine report from Missouri.

The new officers elected are: President, Mrs. W. R. Buffington, New Orleans; president-elect, Mrs. Olin S. Cofer, Atlanta; first vice president, Mrs. Joseph W. Kelso, Oklahoma City; second vice president, Mrs. Arthur L. Walters, Miami; recording secretary, Mrs. H. C. Ricks, Jackson, Mississippi; treasurer, Mrs. J. Leslie Moore, Dallas, Texas; historian, Mrs. Harry M. Gilkey, Kansas City; parliamentarian, Mrs. H. E. Christenberry, Knoxville.

Missouri members attending were Mrs. M. S. Harles, Mrs. Sidney Pakula, Mrs. Mark M. Marks, Mrs. H. L. Mantz, Mrs. Harry M. Gilkey, Kansas City; Mrs. R. C. Haynes, Marshall; Mrs. W. A. Bloom, Fayette; Mrs. H. W. Carle, Mrs. H. E. Petersen, St. Joseph; Mrs. J. R. Green, Independence; Mrs. A. C. Walter, Sedalia; Mrs. D. L. Yancy, Springfield; Mrs. Paul Baldwin, Kennett; Mrs. F. G. Pernoud, Mrs. O. P. J. Falk, Mrs. Daniel L. Sexton, Mrs. K. F. Glaze, St. Louis.

MRS. HARRY M. GILKEY.

856 JUL 28 1947
MEDICAL LIBRARY

INDEX TO VOLUME 43

A

Abel, Oliver—Use of Streptomycin in Tularemia 167
Abstracts and Digest—National Tuberculosis Association—
Bed-Rest in Tuberculosis 41
Dangers of Aerial Transportation to Persons With Pneumothorax 705
Diagnosis and Postsanatorium Care in Pulmonary Tuberculosis 399
Early Diagnosis of Diseases of the Chest, The 258
Diagnosis of Minimal Pulmonary Tuberculosis, The ... 451
Effect of Altitude on Adnormal Accumulations of Air in the Chest 704
of Altitude on Cases of Pneumothorax 704
Is Tuberculosis Fully Reported? 703
Rehabilitation of the Tuberculous 766
Signing Out of Tuberculous Patients, The 563
Tuberculosis and Hospitals 322
Among College Students 105
Tuberculous Meningitis—Case Report 41
What Public Health Expects of the Private Physician .. 702
Acid-Base Balance, Medical Problems of the—Stubbs 603
Address of the President—Bristow—Special Article 560
Agress, Harry—Experiences in Blood Banking in Europe and Their Application to Civilian Practice 751
Allen, Henry C.—The Clinical Significance of the Rh Factor 753
American Academy of Pediatrics Study of Child Health Service—Miscellany 340
Medical Association—Editorial 45
Annual Session—Editorial 567
Anemia, Recent Observation in Scurvy—Wade 756
Annual Session—Editorial 109, 181, 327, 849
Minutes—Society Proceedings 461
Program—Organization Activities 113, 187
Annual Session, 1947—Editorial 849
Antibiotic Agents, Resistance to—Rutherford, Marquardt and Ravenswaay 535
Auditory Impairment in Returned Service Personnel —Howard 762

B

Barnard Free Skin and Cancer Hospital, Research Report for 1945—Cowdry 248
Barnes Hospital, Case Reports of 26, 100, 171, 252, 315, 391, 541
Beaumont, Wm., The Personality of—Special Article—Schlueter 616
Blood Banking, Experiences in Europe and Their Application to Civilian Practice—Agress 751
Blue Nails—Monahan 248
Bohannon, Burton, and Schneider, Nicholas A.—Volvulus of the Stomach 97
Bone Metastases From Breast Carcinoma, Palliative Roentgen Therapy of—Sante 533
Book Reviews—
American Medical Association—New and Nonofficial Remedies 59
Anderson, Gaylord West, et al—Global Epidemiology. A Geography of Disease and Sanitation 277
Archer, Vincent W.—Osseous System 401
Atlas of the Blood in Children—Blackfan and Diamond 275
Bacillary Dysentery, Colitis and Enteritis—Felsen 784
Baer, Rudolph L., et al—Medical Uses of Soap. A Symposium 277
Blackfan, Kenneth D., and Diamond—Atlas of the Blood in Children 275
Blank, Irvin H., et al—Medical Uses of Soap. A Symposium 277
Boroush, Erna L., et al—The Extremities 712
Boyle, Beatrice A., et al—The Extremities 712
Bulbulian, Arthur H.—Facial Prosthesis 777
Care of the Neurosurgical Patient, The—Sachs 712
Christopher, Frederick—Textbook of Surgery 343
Clinical Parasitology—Craig and Faust 706
Common Ailments of Man—Edited by Fishbein 277
Cornbleet, Theodore, et al—Medical Uses of Soap. A Symposium 277
Craig, Charles F., and Faust, Ernest C.—Clinical Parasitology 706
DeKruif, Paul—The Male Hormone 769
Diamond, Louis K., and Blackfan—Atlas of the Blood in Children 275
Dietotherapy—Wohl 131
Essentials of Clinical Allergy—Taub 401
Extremities, The—Quiring, et al 712
Facial Prosthesis—Bulbulian 777
Faust, Ernest Carroll, and Craig—Clinical Parasitology 706
Felsen, Joseph—Bacillary Dysentery, Colitis and Enteritis 784
Fishbein, Morris (ed.)—Common Ailments of Man 277
et al—Medical Uses of Soap. A Symposium 277
Fundamentals of Psychiatry—Strecker 277
Gelinas, Agnes—Nursing and Nursing Education 706
Global Epidemiology. A Geography of Disease and Sanitation—Simons, Whayne, Anderson, Horack and collaborators 277
Halberstadt, C. Thomas, et al—Medical Uses of Soap. A Symposium 277
Hayfever Plants—Wodehouse 42
Herrell, Wallace E.—Penicillin and Other Antibiotic Reagents 277
Hilleboe, Herman E., and Morgan, Russell H.—Mass Radiography of the Chest 204
Hollander, Lester, et al—Medical Uses of Soap. A Symposium 277
Horack, Harold Maclachlan, et al—Global Epidemiology. A Geography of Disease and Sanitation 277
Hunter, Maj. George W.; Mackie, Col. Thomas T., and Worth, Capt. C. Brooke—Manual of Tropical Medicine 131
Jones, Tom—Manual of Surgical Anatomy 777
Kooyman, Daniel J., et al—Medical Uses of Soap. A Symposium 277
Lane, C. Guy—Medical Uses of Soap. A Symposium ... 277
Lufkin, Bernadine—The Extremities 712
Mackie, Col. Thomas T.; Hunter, Maj. George W., and Worth, Capt. C. Brooke—Manual of Tropical Medicine 131
Male Hormone, The—Paul deKruif 769
Manual of Tropical Medicine—Mackie, Hunter and Worth 131
Manual of Surgical Anatomy—Jones and Shepard 777
Marihuana Problem, The. In the City of New York. Sociological, Medical, Psychological and Pharmacological Studies by the Mayor's Committee on Marihuana. Pennsylvania 106
Mass Radiography of the Chest—Hilleboe and Morgan 204
Mayor's Committee on Marihauna, Pennsylvania—Marihuana Problem, The 106
McCord, Carey, et al—Medical Uses of Soap. A Symposium 277
McGrath, Bethel J.—Nursing in Commerce and Industry 777
Medical Uses of Soap. A Symposium—Halberstadt, Sulzberger, Cornbleet, Hollander, Lane, Kooyman, Baer, McCord, Fishbein and Blank 277
Medicine in Industry—Stern 769
Mitchell-Nelson, ed. by Waldo E. Nelson—Textbook of Pediatrics 705
Morgan, Russell H., and Hilleboe, Herman E.—Mass Radiography of the Chest 204
New and Nonofficial Remedies—1945—A.M.A. 59
Nursing in Commerce and Industry—McGrath 777
Nursing and Nursing Education—Gelinas 706
One Hundred Years of Gynaecology—Ricci 705
Operations of General Surgery—Orr 42
Orr, Thomas G.—Operations of General Surgery 42
Osseous System—Archer 401
Penicillin and Other Antibiotic Agents—Herrell 277
Pottenger, Francis Marion—Symptoms of Visceral Disease 128
Quiring, Daniel P., et al—The Extremities 712
Ricci, James V.—One Hundred Years of Gynaecology .. 705
Sachs, Ernest—The Care of the Neurosurgical Patient .. 712
Shepard, W. C.—Manual of Surgical Anatomy 777
Simmons, James Stevens, et al—Global Epidemiology. A Geography of Disease and Sanitation 277
Stern, Bernhard J.—Medicine in Industry 769
Strecker, Edward A.—Fundamentals of Psychiatry 277
Sulzberger, Marion B., et al—Medical Uses of Soap. A Symposium 277
Symptoms of Visceral Disease—Pottenger 128
Taub, Samuel J.—Essentials of Clinical Allergy 401
Textbook of Pediatrics—Mitchell-Nelson 705
of Surgery—Christopher 343
Whayne, Tom F., et al—Global Epidemiology. A Geography of Disease and Sanitation 277
Wodehouse, Roger P.—Hayfever Plants 42
Wohl, Michael G.—Dietotherapy 131
Worth, Capt. C. Brooke; Mackie, Col. Thomas T., and Hunter, Maj. George W.—Manual of Tropical Medicine 131
Boyd, William C., and Malkiel, Saul—Treatment of Minor Burns Acquired in the Laboratory and at Home 538
Bristow, A. S.—Address of the President. Special Article 560
Burns, Treamment of Minor Acquired in the Laboratory and at Home—Malkiel and Boyd 538

C

Cancer Clinics at the Ellis Fischel State Cancer Hospital —Miscellany 50, 106, 186, 275, 324, 401, 456, 568, 658, 711, 854
Carcinoma, Palliative Roentgen Therapy of Bone Metastases From Breast—Sante 533
Case Reports of Barnes Hospital—Wood, Moore and Glaser 26, 100, 171, 252, 315, 391, 541, 610
Castration in the Human Female, Syndrome Characteristic for Menopause, Ovarian Hypofunction and—Werner 311
Chemotherapeutic and Surgical Treatment of Acute Osteomyelitis—Key 23
Chest Tumors—Graham 837
Clinical Correlations Between Renal Disease and Hypertension—Massie 680
Significance of the Rh Factor—Allen 753
Commercial Exhibits—Organization Activities 193
Committee on Study of Cardiac Disease—Organization Activities 117

CATALOGUED
JUL 28 1947

Conference of Presidents and Officers of State Medical Associations—Organization Activities 569
Constructive Program of A.M.A. for Improvement of Medical Care—Miscellany 269
Contributions—Editorial 771
Council, The—Society Proceedings 120
Cowdry, E. V.—Barnard Free Skin and Cancer Hospital. Research Report for 1945 248
Crossen, Robert J.—Endocrine Problems in Gynecology.. 386

D

Dann, Davis S.—Thymus Problem 445
DDT. Dermatitis Resulting From Exposure to—Stryker and Godfroy 384
Deaths— ..
Allee, Gail D. 851
Allen, John Pearl 456
Allee, William S. 710
Altham, Arthur G. 52
Angell, William E. 336
Arnold, George Brandt 711
Bagby, Roland O. 52
Baron, Michael E. 711
Backer, William H. 339
Bonnot, Edmond 851
Bristow, Harry G. 339
Burroughs, William H. 52
Caldwell, Charles Wright 775
Campbell, George K. 339
Chambers, James Quarles, Sr. 775
Coleman, Henry T. 336
Crider, Adolphus J. 336
Dillman, Lucius M. 339
Drake, A. J. 339
Dudley, Carl E. 339
Ellis, Robert R. 456
Ferguson, Arthur D. 336
Finney, William B. 52
Foster, Hal L. 456
Graul, John D. 456
Greditzer, Harry G. 851
Hall, Frank J. 339
Harrison, Edmund Lee 336
Henke, August F. 336
Hogan, William G. 456
Hull, Egbert R. 775
Hume, Edwin L. 336
Hunt, Paul F. 851
Jacobi, Franklin E. 339
Johnson, Archie N. 52
Edward Horace 711
Kaufman, Julius R. 711
Kendig, Howard M. 456
Kenner, Edwin B. 456
Kenney, William Leroy 52
Killoran, John B. 456
Kluegel, William A. 336
Link, Joseph J. 711
McComb, James A. 52
McConnell, Charles T. 456
McCormick, Gilbert C. 52
McGuire, Clarence A. 339
Mankopf, Bert Edward 775
Miller, Robert M. 52
Mulvany, Alva Blake 711
Northcutt, James R. 336
Nye, William Rolla 711
Oliver, Everett A. 52
O'Malley, William F. 339
Outt, Charles Nelson 711
Pickel, John W. 775
Poe, Chester A. 52
Presnell, Ural A. V. 775
Ravenal, Mazyck P. 336
Rice, William 456
Robertson, James A. 52
Roselle, Thos. Andrew 775
Rutledge, John E. 775
Seibel, Marshall G. 52
Short, Ulysses S. 52
Shryman, Ferdinand 775
Seidlitz, George Newman 851
Smith, J. Campbell 775
Snider, Joseph Scott 851
Spector, Hyman I. 711
Stephan, Jesse J. 711
Stookey, Paul F. 52
Strickland, William R. 339
Thurmon, Josiah D. 775
Twyman, George Thomas 775
Van Stavern, DeWitt, C. 336
Vincent, Cranston Gordon 52
Wallace, Charles Hodge 775
Wyatt, Charles Henry 775
Young, H. McClure 851
Youngman, Adam G. 52
Dennie, Charles C., and Mellott, Lennert B.—Reinfection With Syphilis 450
and Morgan, David B.—Use of Large Daily Injections of Penicillin Emulsion in Dermatology..... 539
Department of Public Health and Welfare—Editorial.... 627



"FOR ME ALWAYS"

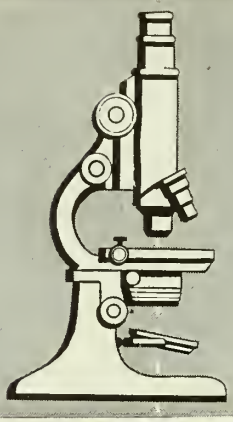
Because DARICRAFT

1. is EASILY DIGESTED
2. has 400 U.S.P. Units of VITAMIN D per pint of evaporated milk.
3. has HIGH FOOD VALUE
4. has an IMPROVED FLAVOR
5. is HOMOGENIZED
6. is STERILIZED
7. is from INSPECTED HERDS
8. is SPECIALLY PROCESSED
9. is UNIFORM
10. will WHIP QUICKLY

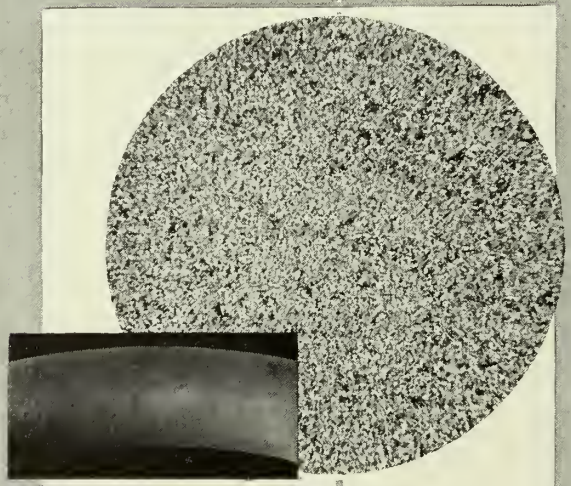
PRESCRIBED BY MANY DOCTORS ... You also may want to utilize Daricraft as a solution to your infant feeding problems, as well as in special diets for convalescents.

PRODUCERS CREAMERY CO., SPRINGFIELD, MISSOURI

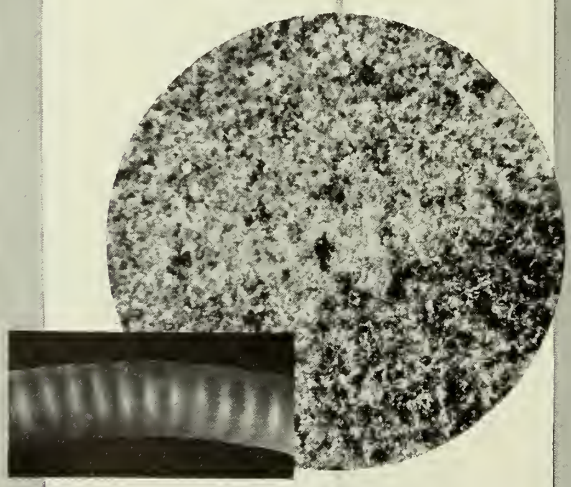




Through the MICROSCOPE



No. 1 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a "RAMSES" Flexible Cushioned Diaphragm.



No. 2 Unretouched photomicrograph of the dome (enlarged 10 diameters) and the rim (inset) of a conventional-type diaphragm.

quality first since 1883

The discerning eye of the microscope reveals notable advantages of the "RAMSES"* Flexible Cushioned Diaphragm.

Only the "RAMSES" has the patented rim construction which provides both a wide, unindented area of contact with the vaginal walls, and a cushion of soft rubber to buffer spring pressure.

The pure gum rubber used in the dome is prepared by an exclusive process which imparts lightness, strength, velvet smoothness, and long life.

Ramses REG. U.S. PAT. OFF.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Pharmacy and Chemistry

FLEXIBLE CUSHIONED DIAPHRAGM

Manufactured in gradations of 5 millimeters in sizes ranging from 50 to 95 millimeters, inclusive. Available through all recognized pharmacies.

A MARK OF Ramses DEPENDABILITY

gynecological division

JULIUS SCHMID, INC.

423 West 55th St., New York 19, N. Y.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

Dermatitis Resulting From Exposure to DDT—Stryker and Godfroy 384
Diuretics, Mercurial, Safety of—Horner 765
Doctor Prefix Bill—Legislation 339, 411
Donnelly, Governor Phil M.—Medicine in Missouri—Special Article 554
Dried Blood Plasma Available Through State Board of Health—Miscellany 271
Dysfunction, Thyroid—McMahon 606

E

Editorials—
American Medical Association 45
Annual Session 567
Annual Session 109, 181, 327, 849
Annual Session, 1947 849
Contributions 771
Department of Public Health and Welfare 627
Heart Disease 771
Hospital Survey and Construction 707
Howard B. Goodrich, M.D., President 325
Infant Mortality 181
Kansas City Southwest Clinical Society 627
Medical Service Plans in Missouri 567
Medical Skills and Resources of the Nation 260
More Hospitals for Missouri? 849
Morris B. Simpson, M.D., President-Elect 627
Physician Wanted 327
Postgraduate Medical Education 455
Reservations for Annual Session 260
Rural Medical Service 45
Salute to the Missouri Legislature 849
Streptomycin 403
Urgent (House Bill No. 206) 325, 403
Veteran Physicians 707
Veterans Oppose Compulsory Health Insurance 109
Why Do Doctors Oppose the Wagner-Murray-Dingell Bill? 771
Electrolyte and Water Balance in Surgical Patients—Elman 455
Elman, Robert—Water and Electrolyte Balance in Surgical Patients 602
EMIC—Miscellany 602
Endocarditis, Subacute Bacterial Clinically Cured With Large Doses of Penicillin by Continuous Intramuscular Drip—Fuson 50
Endocrine Problems in Gynecology—Crossen 310
Experiences in Blood Banking in Europe and Their Application to Civilian Practice—Agress 386
751

F

Fellows, William W.—Spontaneous Rupture of the Spleen in Benign Tertian Malaria 699
Financial Statement for 1945—Organization Activities 267
Fuson, L. H.—Subacute Bacterial Endocarditis, Clinical, Cured With Large Doses of Penicillin by Continuous Intramuscular Drip 310

G

Graham, Evarts A.—Chest Tumors 837
Glaser, Robert J.—Case Reports of Barnes Hospital 541, 610
Godfroy, Bernard, and Stryker, Garold V.—Dermatitis Resulting From Exposure to DDT 384
Goodrich, Howard B., M.D., President—Editorial 325
Gynecology, Endocrine Problems in—Crossen 386

H

Hansen, A. L.—The Need for the Hill-Burton Bill—Special Article 396
Harding, J. C.—Highlights and Problems Related to Medical Care of Veterans 381
Heart Disease—Editorial 771
Highlights and Problems Related to Medical Care of Veterans—Harding 381
Hill-Burton Bill, The Need for—Hansen—Special Article 396
Horner, John L.—Safety of Mercurial Diuretics 765
Hospital Survey and Construction—Editorial 707
Howard, John Clair—Auditory Impairment in Returned Service Personnel 762
Hunt, Claude J., and Hunt, Paul F.—Surgical Care of the Operable Malignant Lesions of the Stomach 21
Paul F., and Hunt, Claude J.—Surgical Care of the Operable Malignant Lesions of the Stomach 21
Hypertension, Clinical Correlations Between Renal Disease and—Massie 680

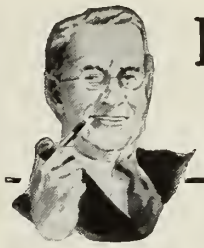
I

Ileum, Symptomatology of Acute Obstruction of the—Keyes 309
Infant Mortality—Editorial 181
Intrathecal Penicillin in Treatment of Neurosyphilis—Rubin and Leitch 169

K

Kansas City Southwest Clinical Society—Editorial 627
Key, J. Albert—Chemotherapeutic and Surgical Treatment of Acute Osteomyelitis 23
Keyes, E. L.—Symptomatology of Acute Obstruction of the Ileum 309
Kinsella, Ralph A.—The Pneumonias 836

Advertisement



From where I sit
by Joe Marsh

Are Returning Veterans "Different"?

During the war you heard a lot about how hard it was going to be for returning veterans to get adjusted to civilian life . . . how they'd be "different."

Well, plenty of them have returned to our town, and a finer, steadier bunch you couldn't ask for. Most of them are back at the same jobs . . . going with the same nice home-town girls (getting married, some of them, and setting up families) . . . renewing the same old friendships.

Even their amusements are the same. Nothing more exciting than fishing Seward's Creek or pitching horseshoes . . . enjoying an outdoor barbecue with friendly wholesome beer and pleasant talk.

If they've changed at all it's in the direction of maturity and tolerance . . . tolerance for everything except dictators, and those who would destroy our democratic principles of live and let live. And from where I sit, that's another reason to be proud of them.

Joe Marsh

Copyright, 1946, United States Brewers Foundation

L

Legislation—
Doctor Prefix Bill 339, 411
Senate Bill No. 349 117
No. 1606 457
Leitch, Cecil G., and Rubin, Samuel G.—Intrathecal Penicillin in Treatment of Neurosyphilis 169

M

Magiera, Stephen L.—Poliomyelitis 446
Malaria, Spontaneous Rupture of the Spleen in Benign Tertian—Fellows 699
Malkiel, Saul, and Boyd, William C.—Treatment of Minor Burns Acquired in the Laboratory and at Home..... 538
Marquardt, Gilbert H.; Rutherford, Robert H., and Van Ravenswaay, Arie C.—Resistance to Antibiotic Agents 535
Massie, Edward—Clinical Correlations Between Renal Disease and Hypertension 680
McMahon, Commodore Alphonse—Thyroid Dysfunction.. 606
Medical Problems of the Acid-Base Balance—Stubbs..... 603
Service Plans—Editorial 567
Service Plans in Missouri—Editorial 260
Medicine in Missouri—Donnelly—Special Article..... 554
Medical Skills and Resources of the Nation—Editorial
Mellott, Lennert B., and Dennie, Charles C.—Reinfection With Syphilis 450
Menopause, Syndrome Characteristic for, Ovarian Hypofunction and Castration in the Human Female—Werner 311
Miscellany—
American Academy of Pediatrics Study of Child Health Services 340
Cancer Clinics at the Ellis Fischel State Cancer Hospital..50, 106, 186, 275, 324, 401, 456, 568, 658, 711, 775, 854
Constructive Program of A.M.A. for Improvement of Medical Care 269
Dried Blood Plasma Available Through State Board of Health 271
EMIC 50
Missouri Doctors Returned From Military Service.... ..... 49, 110, 182, 261, 329, 404, 456, 568
Naval Air Reserve Needs Doctors for Reserve Training Program 457
"Physician, Heal Thyself" 124
Plans for Cooperation Between Teaching Institutions and Veterans' Hospitals 52
Reenlistment and Employment of Veterans..... 853
Veterans Administration Department of Medicine and Surgery 127
Missouri Legislature, A Salute to the—Editorial..... 403
More Hospitals For?—Editorial..... 627
Physicians Returned From Military Service—Miscellany..... 49, 110, 182, 261, 329, 404, 456, 568
Monahan, E. P.—Blue Nails 248
Moore, Neil S., and Powell, Earl A—Prostatic Calculi... 245
Robert A.—Case Reports of Barnes Hospital..... ..... 26, 100, 171, 252, 315, 391
More Hospitals for Missouri?—Editorial..... 627
Morgan, David B., and Dennie, Charles C.—Use of Large Daily Injections of Penicillin Emulsion in Dermatology 539
Mudd, James L.—Significant Developments in the Field of Suppurative Diseases of the Chest 839
Muether, R. O.—Water Balance..... 599
Myers, Jay Arthur—Tuberculosis 829

N

National Tuberculosis Association Abstracts..... 41, 105, 178, 258, 322, 399, 451, 563, 702, 703, 704, 705, 766, 846
Naval Air Reserve Needs Doctors for Reserve Training Program—Miscellany 457
Need for the Hill-Burton Bill—Hansen—Special Article.. 396
Neurosyphilis, Intrathecal Penicillin in Treatment of. A Preliminary Report—Rubin and Leitch..... 169
News....46, 109, 181, 260, 327, 404, 455, 567, 629, 710, 775, 851

O

Olmsted, W. H.—The Significance of Recently Developed Tests of Renal Function 677
Organization Activities—
Annual Session Program 113, 187
Commercial Exhibits 193
Committee on Study of Cardiac Diseases..... 117
Conference of Presidents and Officers of the State Medical Associations 569
Financial Statement for 1945 267
Osteomyelitis, Chemotherapeutic and Surgical Treatment of Acute—Key 23
Ovarian Hypofunction and Castration in the Human Female, Syndrome Characteristic for Menopause—Werner 311

P

Palliative Roentgen Therapy of Bone Metastases From Breast Carcinoma—Sante 533
Penicillin Treatment of Neurosyphilis, Intrathecal—Rubin and Leitch 169

Schieffelin
BENZESTROL
(7, 4-di (p-hydroxyphenyl) -3-ethyl hexene)

the Preferred Estrogen

ACCEPTED AMERICAN MEDICAL ASSN.
COUNCIL ACCEPTED

Schieffelin BENZESTROL is rapidly becoming the therapeutic agent of choice where estrogen therapy is indicated. Clinical potency, marked tolerance and economy are the features to recommend its use.

Available in tablets, potencies of 0.5, 0.1, 2.0 and 5.0 mg.; in 10 cc. vials containing 5.0 mg. per cc., and in ellipsoid shaped vaginal tablets of 0.5 mg. strength, the physician has a choice of three modes of administration.



Literature and Sample on Request

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 Cooper Square New York 3, N. Y.

Subacute Bacterial Endocarditis Clinically Cured With Large Doses of, by Continuous Intramuscular Drip —Fuson 310
Use of Large Daily Injections of Emulsion in Dermatology—Dennie and Morgan 539
Personality of William Beaumont — Schlueter — Special Article 616
"Physician, Heal Thyself"—Miscellany 124
Wanted—Editorial 455
Plans for Cooperation Between Teaching Institutions and Veterans' Hospitals—Miscellany 52
Pneumonias, The—Kinsella 836
Pneumonias With Special Reference to the Tissues Involved, A Roentgen-Ray Classification of the—Sante 93
Poliomyelitis—Magiera 446
Postgraduate Medical Education—Editorial 260
Powell, Earl A., and Moore, Neil S.—Prostatic Calculi.. 245
Prostatic Calculi—Moore and Powell 245
Public Health and Welfare, Department of—Editorial... 627

R

Recent Observations on Anemia in Scurvy—Wade 756
Reenlistment and Employment of Veterans—Miscellany.. 853
Reinfection With Syphilis—Dennie and Mellott 450
Reinhard, Edward H.—Renal Insufficiency in Diseases Other Than Those of the Kidneys and Urinary Tract 693
Renal Disease and Hypertension, Clinical Correlations Between—Massie 680
Function, The Significance of Recently Developed Test of—Olmsted 677
Insufficiency in Diseases Other Than Those of the Kidneys and Urinary Tract—Reinhard 693
Lithiasis: Recent Advances in Treatment—Rose 682
Reservations for Annual Session—Editorial 45
Resistance to Antibiotic Agents—Rutherford, Marquardt and Ravenswaay 535
Rh Factor, The Clinical Significance of—Allen 753
Roentgen, Therapy, Palliative, of Bone Metastases From Breast Carcinoma—Sante 533
Ray Classification of the Pneumonias With Special Reference to the Tissues Involved—Sante 93
Rose, D. K.—Renal Lithiasis: Recent Advances in Treatment 682
Rubin, Samuel H., and Leitch, Cecil G.—Intrathecal Penicillin in Treatment of Neurosyphilis. A Preliminary Report 169
Rural Medical Service—Editorial 849
Rutherford, Robert H.; Marquardt, Gilbert H., and Van Ravenswaay, Arie C.—Resistance to Antibiotic Agents 535

S

Safety of Mercurial Diuretics—Horner 765
Salute to the Missouri Legislature—Editorial 403
Sante, L. R.—Palliative Roentgen Therapy of Bone Metastases From Breast Carcinoma 533
—Roentgen-Ray Classification of the Pneumonias With Special Reference to the Tissues Involved, A 93
—Significant Developments in the Field of Chest Radiology 840
Schlueter, Robert E.—The Personality of William Beaumont—Special Article 616
Schneider, Nicholas A., and Bohannon—Volvulus of the Stomach 97
Scurvy, Recent Observations on Anemia in—Wade 756
Senate Bill No. 349—Legislation 117
Bill No. 1606—Legislation 457
Significance of Recently Developed Tests of Renal Function—Olmsted 677
Significant Developments in the Field of Chest Radiology —Sante 840
in the Field of Suppurative Diseases of the Chest—Mudd 839
Simpson, Morris B., President-Elect—Editorial 327
Society Proceedings—
Annual Session Minutes 461
Barry-Lawrence-Stone County Medical Society 776
Bates County Medical Society 119
Caldwell-Livingston, Grundy-Daviess, Carroll and Linn County Medical Society 776
Cape Girardeau County Medical Society 120
Central Missouri Clinical Society 459
Council, The 120
Dent County Medical Society 570
Eighth Councilor District Meeting 459
Howell-Oregon-Texas-Wright-Douglas Counties Medical Society 120, 274, 342
Lafayette County Medical Society 275
Lincoln County Medical Society 570
Linn County Medical Society 776
New Madrid County Medical Society 571
Nodaway-Atchison-Gentry-Worth Counties Medical Society 119
Pettis County Medical Society 275
Phelps-Crawford County Medical Society 570
Phelps-Crawford, Dent and Pulaski County Medical Societies 712, 776
Pulaski County Medical Society 274
Randolph-Monroe Counties Medical Society 275
St. Charles County Medical Society 570
St. Francois-Iron-Madison-Washington-Reynolds Counties Medical Society 571, 853
Saline County Medical Society 853
South Central Counties Medical Society 459, 571, 629, 712, 776, 853
Warren County Medical Society 570
Wright-Douglas Counties Medical Society 119
Special Articles—
Address of the President—Bristow 560
Medicine in Missouri—Donnelly 554
Need for the Hill-Burton Bill—Hansen 396
Personality of William Beaumont—Schlueter 616
Spontaneous Rupture of the Spleen in Benign Tertian Malaria—Fellows 699
Stomach, Surgical Care of the Operable Malignant Lesions of—Hunt and Hunt 21
Volvulus of—Schneider and Bohannon 97
Streptomycin—Editorial 707
in Tularemia, The Use of—Abel 167
Stryker, Garold V., and Godfroy, Bernard—Dermatitis Resulting From Exposure to DDT 384
Stubbs, James B.—Medical Problems of the Acid-Base Balance 603
Subacute Bacterial Endocarditis Clinically Cured With Large Doses of Penicillin by Continuous Intramuscular Drip—Fuson 310
Surgical Care of the Operable Malignant Lesions of the Stomach—Hunt and Hunt 21
Symptomatology of Acute Obstruction of the Ileum—Keyes 309
Syndrome Characteristic for Menopause, Ovarian Hypofunction and Castration in the Human Female—Werner 311
Syphilis, Reinfection With—Dennie and Mellott 450

T

Thymus Problem—Dann 445
Thyroid Dysfunction—McMahon 606
Treatment of Minor Burns Acquired in the Laboratory and at Home—Malkiel and Boyd 538
Tuberculosis—Myers 829
Tularemia, The Use of Streptomycin in—Abel 167

U

Urgent (H.B. No. 206)—Editorial 325, 403
Use of Large Daily Injections of Penicillin Emulsion in Dermatology—Dennie and Morgan 539
Use of Streptomycin in Tularemia—Abel 167

V

Van Ravenswaay, Arie C., et al—Resistance to Antibiotic Agents 535
Veterans Administration Department of Medicine and Surgery—Miscellany 127
Highlights and Problems Related to Medical Care of —Harding 381
Oppose Compulsory Health Insurance—Editorial 771
Physicians—Editorial 109
Volvulus of the Stomach. Report of a Case—Schneider and Bohannon 97

W

Wade, Leo J.—Recent Observations on Anemia in Scurvy 756
Water Balance—Muether 599
and Electrolyte Balance in Surgical Patients—Elman.. 602
Werner, August A.—Syndrome Characteristic for Menopause, Ovarian Hypofunction and Castration in the Human Female 311
Why Do Doctors Oppose the Wagner-Murray Dingell Bill? Editorial 455
Woman's Auxiliary to the Missouri State Medical Association 130. 205. 343, 780, 855
Wood, W. Barry—Case Reports of Barnes Hospital 26, 100, 171, 252, 315, 391

BOOK REVIEWS

COUNCIL ON PHARMACY AND CHEMISTRY. Annual Reprint of the Reports of the American Medical Association for 1945 with the Comments that have appeared in the Journal. American Medical Association, 1946.

Originally intended chiefly as a repository of its reports on rejection of preparations found unacceptable for inclusion in "New and Nonofficial Remedies" or of status reports on products whose therapeutic value has not yet been established, this volume in recent years has been composed mainly of reports giving general information to the physician on the status of various therapeutic agents and therapeutic procedures. Most of these reports have previously been published in *The Journal of the American Medical Association.* The reports in the present volume emphasizes the educational nature of the Council's work and bear witness to its leadership in the consideration of current therapeutic problems.

The report "Dermatophytosis: Treatment and Pro-

phylaxis," gives a concise estimate of progress in this field and sets up useful standards for the evaluation of fungicidal preparations. The report on "Dangers from the External Use of Sulfonamides," obviously stems from wartime experience with these preparations and issues a warning against over-the-counter sales. The report "Status of Poison Ivy Extracts" emphasizes the fact that these preparations are to be used in prevention rather than treatment. The report on acne bacillus vaccine points out that this preparation, in the opinion of most investigators, fails in most cases clinically to arrest or control acne vulgaris. In the report "The Status of Passive Immunization and Treatment in Pertussis by the Use of Human Hyperimmune Serum" prepared by Dr. Harriet M. Felton and sponsored by the Council, the status of these preparations was definitely outlined just prior to the acceptance by the Council of a number of commercial preparations.

This volume as well as preceding Annual Reprints are of interest not only to physicians but also to pharmacists, chemists and pharmaceutical manufacturers; in fact, to all who are interested in the progress of drug therapy.

New and Nonofficial Remedies, 1946, containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1946. Issued Under the Direction and Supervision of the Council on Pharmacy and Chemistry of the American Medical Association. American Medical Association, 1946.

"New and Nonofficial Remedies" is the book in which are listed and described the medicinal preparations which the Council on Pharmacy and Chemistry has found acceptable, under its rules, for the use of physicians. To have a product accepted, the manufacturer must declare its composition, give adequate proof of its therapeutic value and market it with claims which have been found valid by the Council. The present volume represents a cumulative epitome of the Council's work since its foundation in 1905.

Accepted preparations are grouped in twenty-four classifications ranging from allergenic preparations to vitamins. Ordinarily, an inclusive general article precedes the description of the various products. The monograph for the products set forth the actions, uses and dosage and usually a set of tests and standards. As its name implies, the book is intended to describe nonofficial preparations, that is preparations which are not included in such official publications as the "Pharmacopeia" and the "National Formulary." However, some official articles are listed and described, these being in general those for which the Council feels the practicing physician needs concise and authoritative information. In the preface of the present volume, the Council lists some thirty-five official drugs ranging from acetylsalicylic acid to Strophanthin, which the Council feels it no longer necessary to consider for inclusion in the book. However, in most cases, a brief monograph on actions, uses and dosage gives information useful to the physician and for the control and advertising of marketed preparations.

Examination of the volume reveals that there have been no extensive or radical revisions of the general articles representing the twenty-four chapter heads under which preparations are classified. A few revisions of separate monographs may be mentioned: under Chaulmoogra derivatives, the recommended use of chaulmoogra oil is limited to sarcoidosis; the dosage statement for quinacrine hydrochloride has been notably expanded to reflect the wartime experience with the drug. The radically revised monograph on amphetamine is in harmony with the recent Council report on the use of this drug. Minor revisions of the chapter on contraceptives are noted, and one marks the appearance of many additional products. The monograph of the vitamin B complex now mentions synthetic folic acid, recently made available for investigational use; but no accepted preparations are listed.

There appear to be no spectacularly new accepted preparations. Perhaps the most noteworthy is the casein hydrolysate, Amigen, acceptance of which will no doubt be followed by that of many more preparations representing the field of amino acid therapy.

Diseases of the Adrenals. By Louis J. Soffer, M.D. Adjunct Attending Physician The Mount Sinai Hospital, New York City. Illustrated with 42 Engravings and 2 Colored Plates. Lea & Febiger. Philadelphia. 1946. Price $5.50.

This monograph lives up to its title. In its 304 pages one finds a succinct, complete coverage of the anatomic, physiologic, pathologic, laboratory and clinical aspects of adrenal disease.

One chapter is devoted in its entirety to a detailed description of the technics of the clinical and laboratory studies useful in the diagnosis of adrenal disease. This should be a valuable quick reference source for physicians and laboratories who are confronted infrequently with the urgent problems peculiarly presented by a case of suspected Addison's disease.

The discussion of the physiology of the adrenal glands is excellent, and the relationship of the adrenals to endocrinology in general is well presented. The major portion of the book is of course given to Addison's disease. Numerous case reports are given. All important points are summarized after detailed discussion. The method of determining the proper amount of desoxycorticosterone acetate for pellet implantation is given, as well as the indications for this method of therapy.

Adrenal cortical hyperfunction and medullary tissue tumors are discussed in detail.

The opinions expressed seem to be admirably modern as well as objective. Thus, the indiscriminate use of adrenal cortical substances is decried, and the question of the role of acute adrenal insufficiency in the Waterhouse-Friderichsen syndrome is raised.

The bibliography and the index are complete. The format, paper and printing of the book make for comfortable reading. M. J. M.

Management of Fractures, Dislocations, and Sprains. By John Albert Key, B.S., M.D., St. Louis, Mo., Clinical Professor of Orthopedic Surgery, Washington University School of Medicine; Associate Surgeon, Barnes, Children's, and Jewish Hospitals and H. Earle Conwell, M.D., F.A.C.S., Birmingham, Ala., Orthopaedic Surgeon to the Tennessee Coal, Iron and Railroad Company and the American Cast Iron Pipe Company; Chairman of the Committee on Fractures and Traumatic Surgery of the American Academy of Orthopaedic Surgeons; Member of the Fracture Committee of the American College of Surgeons; Associate Surgical Director of the Crippled Children's Hospital, Attending Orthopaedic Surgeon to St. Vincent's Hospital, South Highlands Hospital, Jefferson-Hillman Hospital, Children's Hospital and Baptist Hospitals, Birmingham, Alabama. Fourth Edition. The C. V. Mosby Company. St. Louis, 1946. Price $12.50.

This volume comes at an opportune time—a time when men returning from military service and men who stayed at home can find between two covers the good that has survived in the traumatic surgery of bones and joints during World War II.

The 1,316 illustrations are well chosen. Of the entire 1,322 pages one is struck with the fact that more than 1,000 pages are devoted to the diagnosis and treatment of specific injuries. One will look with satisfaction for the solution of many problems in industrial surgery.

In part 1, one finds all that one could wish in the

way of principles and general aspects. Forty pages are devoted to a description of equipment of all sorts, classification of fractures, use of roentgen-ray in diagnosis and follow-up treatment. An equal amount of space is devoted to compound fractures and war wounds, with Army and Navy medical department illustrations adding to clarify. Chapter IX, devoted to Workmen's Compensation Law as related to fracture cases, is comprehensive and will be appreciated by the majority of practitioners. The chapter dealing with medicolegal aspects of fracture cases will prove valuable to all traumatic surgeons.

Skeletal traction has been accepted by all traumatic surgeons, but the debate goes on relative to the advisability of some of the mechanical gadgets recently devised. No mention is made of the Clayton bar, but the methods of Haynes and of Stader are illustrated with an excellent photograph of osteomyelitis and nonunion following use of pins for fixation of fracture. Although one may be an exponent of Clayton or of Strader, one is bound to see virtue in the conclusion and advice that this system be used "only by individuals who are familiar with and capable of applying it."

The principal changes in the text since publication of the third edition have been in the sections dealing with injuries to the spine and the hip. Newer drugs and methods have made necessary some revision in the ideas and methods for the care of compound fractures. One looks in vain for any change from the original opinion of the authors (expressed in 1934) that the time will never come in medical practice "when all fracture cases will be treated by specialists." It is encouraging to note, however, that Key and Conwell themselves prefer the opinion of Edgar F. Finchey of Atlanta in fractures of the skull and brain trauma and of James Barrett Brown of St. Louis in fractures of the jaws and of bones of the face. There is no similar evidence that injuries to the spine and cord are referred to neurosurgeons. Key now believes that in practically all patients with idiopathic low back pain or low back strain the lesion is in the intervertebral disk, and agrees with Dandy as to the etiology, symptoms and treatment. When conservative treatment fails (and this treatment is similar to the usual routine in the care of such cases) he advocates operation if the patient "demands relief from pain." He emphasizes that "the operation is not to be undertaken lightly," that "concealed disks are relatively frequent" and that multiple disk protrusions are more frequent than realized.

For the enlightenment of the traumatic and industrial surgeon this whole discussion of low back disability is worth reading. It is important to note the final sentences in this chapter. Briefly, Key concludes that removal of a ruptured or bulging disk should not be accompanied by lumbosacral fusion for the reason that "if the intraspinal cause of trouble is removed fusion is not necessary and if it is not removed fusion is futile." As to prognosis of these troublesome low back disabilities there is comfort in the knowledge that the authors feel that 90 per cent of the patients are relieved by conservative treatment and that only 10 per cent are in need of surgery.

The text is filled with specific references to cases with specific experiences and with honest appraisals. They make no pretense at following the Lane technic in bone surgery for the reason that it greatly prolongs the operation and leads to devitalization of tissue because of long exposure to outside air. They admit failure to cure tennis elbow by removing tufts of periosteum and have gone into an elbow for a bursitis only to find no bursa there.

This is a text full of help, encouragement and practical advice for the surgeon in industry, and for the general surgeon in handling fractures. It is not a work on orthopedic surgery in the classical sense and its title implies exactly what it is. It should be in every surgeon's library. E. P. H.

AUTONOMIC NERVOUS SYSTEM, THE. By Albert Kuntz, Ph.D., M.D., Professor of Micro-Anatomy in St. Louis University School of Medicine. Third Edition. Enlarged and Thoroughly Revised. Illustrated with 91 Engravings. Lea & Febiger. Philadelphia. 1945. Price $8.50.

This book is actually a compiled, condensed summary of all the literature bearing any relationship to the autonomic nervous system, with the addition of all recent clinical and experimental data concerning it. The text considers the anatomy, physiology, histopathology and clinical relationships of the autonomic nervous system in adequate enough detail to be an excellent reference book for all medical libraries. Its one hundred and twenty page bibliography testifies to the tremendous amount of intensive research represented by the facts presented in this volume. Its text is of necessity so condensed and factual that it must be studied rather than read. The illustrations are few, but the essential ones are present and good. It is a good textbook on a difficult subject which is generally poorly understood. W. P. W.

SYNOPSIS OF PHYSIOLOGY. By Rolland J. Main, Ph.D., Professor of Physiology, Medical College of Virginia, Richmond. Illustrated. St. Louis. The C. V. Mosby Company. 1946. Price $3.50.

The author says, "Physicians and senior medical students often ask me to recommend a physiology text for review purposes, or to learn what has been added to our knowledge of physiology since they studied the subject. When, with yearly increasing exertion, I lift a standard text from my desk, they recoil in horror at its size, stating emphatically that they want a little book which hits the high spots. So here is a small book which attempts to cover the essentials."

Although entitled "A Synopsis of Physiology" the book runs to 314 pages and an index and, to this reviewer, seems to more than adequately cover human physiology. It is a well written book and clear, but so much information has been compressed into its pages that it does not read easily. For reference, many will prefer the larger textbooks of physiology, but this book will doubtless be of considerable value to those who are reviewing for examinations. B. S. P.

A SYNOPSIS OF THE DIAGNOSIS OF THE SURGICAL DISEASES OF THE ABDOMEN. By John A. Hardy, B.Sc., M.D., F.A.C.S., El Paso, Texas. With 100 illustrations. Second edition. St. Louis: The C. V. Mosby Company, 1945. Price $5.00.

This is a clear and concise synopsis of each of the acute surgical diseases of the abdomen as regards etiology, gross pathology, clinical history, signs and symptoms, laboratory findings and differential diagnosis.

The book can be recommended as an excellent reference book for the practicing physician as well as the student in medicine. J. J. C.

ESSENTIALS OF NEURO-PSYCHIATRY, a Textbook of Nervous and Mental Disorders by David M. Olkon, S.B., A.M., M.D., Associate Professor of Psychiatry, College of Medicine, University of Illinois. Illustrated with 139 Engravings. Lea & Febiger. Philadelphia. 1945. Price $4.50.

The term "neuropsychiatry" is used by the author to denote the neuroses, the psychoses and the psychopathic states. The book evidently is meant to be a text for the most part. It is competently done although not out of the ordinary. Little space is devoted to the neuroses. An unusual feature is a chapter on the possible influence of blood capillary activities in the psychoses. The book can be recommended as authorative. L. B. A.

COMMERCIAL ANNOUNCEMENTS

NEW ANTISPASMODIC FOUND TO RELAX SPASMS AND RELIEVE PAIN

Addressing the research staff of Frederick Stearns & Co. Division, Sterling Drug Inc., Dr. B. E. Abreu, University of California, outlined plans for further clinical experiments using two new Stearns' antispasmodics, one of which is described as "relaxing spasms and relieving pain, without excess nervous stimulation."

The two compounds are as yet known only as "Stearns 600" and "Stearns 606," or chemically as beta-diethylaminoethyl phenyl-alphathienylglycolate hydrochloride and beta-diethylaminoethyl phenyl-alphathienylacelate hydrochloride respectively.

Experiments already conducted by Dr. R. A. Woodbury and associates at the University of Georgia School of Medicine, indicate that both compounds effectively reduce uterine irritability. Both Dr. Woodbury and Dr. Abreu presented individual reports on clinical and laboratory tests at the recent meeting of the Federation of American Societies of Experimental Biology in Atlantic City. For these and other experimental purposes Stearns has prepared the compounds in tablet and solution form.

Dr. Abreu reported on effects of the compounds on the central nervous system, stating "600" was quite effective in stimulating the central nervous system, whereas "606" was almost devoid of that effect. What is sought is, therefore, most favorably found in "606," which relaxes spasms and relieves pain without excess nervous stimulation.

By using a newly developed technic, Dr. Woodbury and his associates were able to show that both "600" and "606" were effective in reducing uterine irritability and pain in dysmenorrhea patients, he reported in Atlantic City. In another report at the same meeting, he described his work with both animals and patients which led to his new methods for evaluating uterine antispasmodics. According to this technic, the uterine and cervical pressures are recorded simultaneously with an optical system from balloons inserted in the uterus and cervical canal. An electrocardiograph is adapted on a chart to record simultaneously the action currents picked up through silver chloride coated silver electrodes.

PROCTOSIGMOIDECTOMY

A motion picture in color depicting in detail an abdominoperinal proctosigmoidectomy has been obtained by the medical department of the Frederick Stearns & Co. Division, Sterling Drug Inc., according to Dr. Earl S. Burbidge, director. It is available for showing by hospitals, medical societies and other interested professional groups on application to John Seward, manager of the professional service department, at Stearns headquarters offices, Detroit, Mich. The showing time of the film is 38 minutes.

Performing the operation pictured is Harry E. Bacon, M.D., F.A.C.S., of Temple University Hospital, Philadelphia, Pa. The technic developed by W. W. Babcock, M.D., F.A.C.S., chief surgeon of the same hospital, and carried on by Dr. Bacon, is shown.

Stearns' interest in the film lies in the use Dr. Bacon makes of Parenamine (amino acid mixture) both preoperatively and postoperatively. Sufferers of cancer of the lower bowel and colon usually reach the hospital in a poorly nourished condition. The amino acid therapy, plus other methods followed by Dr. Bacon, has resulted in prevention of hypoproteinemia in a significant number of cases.

James A. Wallace, M.D. *Medical Director*
S. N. Brinson, M.D. *Medical Director*
Charles W. Miller, Jr., M.D. *Psychiatrist*
Walter R. Wallace *Business Manager*



THE WALLACE SANITARIUM

MEMPHIS, TENNESSEE

For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.



"Footprints on the sands of time"— No. 2

of a series honoring the contributions of eminent personalities of medicine and pharmacy.

KARL WILHELM SCHEELE- 1742-1786

Pharmacist . . . . . .

Karl Wilhelm Scheele, one of the world's great pharmacists, devoted his entire life to research and was responsible for outstanding contributions to the armamentarium of medicine.

His first paper, read in 1770, described the isolation of tartaric acid. This was followed by an impressive series of discoveries, including the identification of potassium permanganate, and arsenic, benzoic, oxalic, and uric acids. Such now familiar products as calomel, glycerin, ethyl acetate, and ethyl benzoate resulted from the tireless research of this discoverer extraordinary.



In recognition of its responsibility to further the progress of medicine and pharmacy, The Harrower Laboratory, Inc. pledges adherence to a continuing research program designed to develop products which meet the most exacting requirements for purity, uniformity, and therapeutic effectiveness.

The Harrower Laboratory, Inc.

GLENDALE 5, CALIFORNIA



Lov-é CORRECTIVE *Brassieres*
ARE CUSTOM-FITTED
TO PRESCRIPTION







HYGIENIC REMEDIAL SUPPORT IS AVAILABLE FOR SPECIFIC BREAST CONDITIONS

Custom-fitted to the individual in exact accordance with the physician's instructions, these supports are the most highly specialized available and a definite aid to treatment.

Special models provide hygienic remedial support for specific breast conditions. Also available: amputation models, artificial breasts, muscle pads, hospital binders, maternity garter supports.

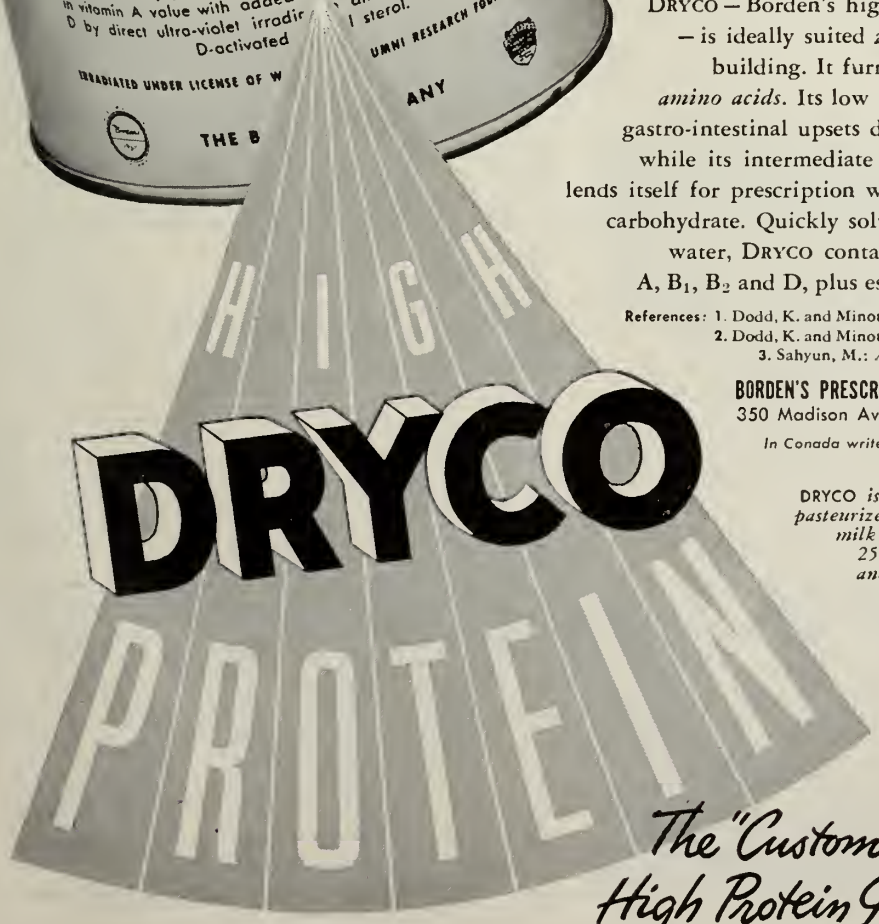
Lov-é Brassieres

In more than 500 bust-cup-torso size variations.

LOV-E SECTION CORSET DEPARTMENT
FAMOUS-BARR CO., ST. LOUIS

THE HIGH-PROTEIN INFANT FOOD





The incidence of mild protein deficiencies in children, predisposing toward infections and edema, is reported[1,2] much greater than generally realized. Infant and adolescent requirements—not only for tissue repair and maintenance, but also for growth—are much higher than in adulthood.[3] To insure adequate protein intake in infancy, DRYCO—Borden's high-protein infant food—is ideally suited as a basis for formula building. It furnishes *all the essential amino acids.* Its low fat content minimizes gastro-intestinal upsets due to fat intolerance, while its intermediate carbohydrate content lends itself for prescription with or without added carbohydrate. Quickly soluble in cold or warm water, DRYCO contains adequate vitamins A, B_1, B_2 and D, plus essential milk minerals.

References: 1. Dodd, K. and Minot, A. S.: *J. Pediat.*, 8:442, 1936.
2. Dodd, K. and Minot, A. S.: *J. Pediat.*, 8:452, 1936.
3. Sahyun, M.: *Am. J. Dig. Dis.*, 13:59, 1946.

BORDEN'S PRESCRIPTION PRODUCTS DIVISION
350 Madison Avenue, New York 17, N. Y.

In Canada write The Borden Company, Limited Spadina Crescent, Toronto.

DRYCO *is made from spray-dried, pasteurized, superior quality whole milk and skim milk. Provides 2500 U.S.P. units vitamin A and 400 U.S.P. units vitamin D per reconstituted quart. Supplies 31½ calories per tablespoon. Available at all drug stores in 1 and 2½ lb. cans.*

ACCEPTED AMERICAN MEDICAL ASSN

The "Custom Formula" High Protein Infant Food

Cook County Graduate School of Medicine

(IN AFFILIATION WITH COOK COUNTY HOSPITAL)

Incorporated not for profit

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique starting January 20 and February 17, 1947.

Four Weeks Course in General Surgery starting February 3 and March 3, 1947.

GYNECOLOGY—Two Weeks Intensive Course on dates to be announced.

One Week Personal Course in Vaginal Approach to Pelvic Surgery, dates to be announced.

MEDICINE—Two Weeks Intensive Course on dates to be announced.

General, Intensive and Special Courses in All Branches of Medicine, Surgery and the Specialties

Teaching Faculty—Attending Staff, Cook County Hospital

Registrar, 427 South Honore St., Chicago 12, Ill.



The Neurological Hospital, 2625 The Paseo, Kansas City, Missouri. Operated by the Robinson Clinic, for the care and treatment of nervous and mental patients and associated conditions.



A complete line for clinical laboratories devoted to all branches of chemistry, bacteriology, hematology, and parasitology. Tested and checked in our own clinical laboratories. Purity warranted. Our facilities assure prompt shipment of large or small orders. Inquiries invited.

COMPLETE CATALOG

and Medical Reference Guide

Reagents catalogued alphabetically—also according to subjects and techniques, plus medical reference guide. Catalog comprises full line blood testing sera including anti-Rh, anti-M and anti-N; also reagents for Wassermann, Kline, and Kahn tests. Write for your copy. FREE ON REQUEST.



GRADWOHL LABORATORIES

R. B. H. Gradwohl, M. D., Director

3514 Lucas Av. St. Louis, Mo.

Freidman Pregnancy Test

requires only 48 hours. Write for mailing tube and vial.

Established 1938 *Price $5.00*

Pregnancy Diagnostic Laboratories

DYSART, IOWA

THE STOKES SANITARIUM 923 Cherokee Road, Louisville, Kentucky

Our ALCOHOLIC treatment destroys the craving, restores the appetite and sleep, and rebuilds the physical and nervous condition of the patient. Liquors withdrawn gradually; no limit on the amount necessary to prevent or relieve delirium.

MENTAL patients have every comfort that their home affords.

The DRUG treatment is one of gradual Reduction. It relieves the constipation, restores the appetite and sleep; withdrawal pains are absent. No Hyoscine or rapid withdrawal methods used.

NERVOUS patients are accepted by us for observation and diagnosis as well as treatment.

E. W. STOKES, Medical Director, Established 1904
Telephone—Highland 2101

Hair Permanently Removed by Electrolysis

DOROTHY WORRELL, R.N.

233 N. Vandeventer, St. Louis
Telephone, Jefferson 9436

Work Done on Prescription of Physicians Only

The Season's Greetings



To lay a log of wood upon the fire
To dress the fir tree in its gift attire
To wish you happiness and cheer
To bring you peace throughout the year.

THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

RESEARCH HOSPITAL

Kansas City, Missouri

Residencies of two years duration in Anaesthesiology to graduates, from approved Medical Schools, who have had an approved internship of at least one year.

Training in inhalation, regional, spinal and intravenous anesthesia and experience in intravenous therapy, inhalation therapy, resuscitation, endobronchial aspiration and blood transfusion is provided.

Seminare will be conducted each week and also a review of literature.

Stipend $100 per month, and full maintenance.

For further information write to:

Frank Hurwitt, M.D.

HANGER

INVENTORS and MANUFACTURERS of



ENGLISH WILLOW and DURAL LIGHT METAL LIMBS



EXPERT FITTING · SUPERIOR DESIGN · QUALITY CONSTRUCTION

J.E. HANGER, INC.

1912 OLIVE ST. ST LOUIS, MO. CENTRAL 1088



North Shore Health Resort

Winnetka, Illinois

on the Shores of Lake Michigan

A completely equipped sanitarium for the care of
nervous and mental disorders, alcoholism and drug addiction
offering all forms of treatment, including electric shock.

SAMUEL LIEBMAN, M.S., M.D.

225 Sheridan Road *Medical Director* **Phone Winnetka 211**

SUBJECT: "YOUR DOCTOR"
AUDIENCE: 23 MILLION PEOPLE

This is the 200th message published by Parke, Davis & Company in the interest of the medical profession. It appears this month in full color in LIFE and other leading national magazines.

Some things you should know about **your doctor**

No. 200 in a series of messages from Parke, Davis & Co. on the importance of prompt and proper medical care.



IN TIMES of distress, almost everyone turns to his doctor. But when things are going smoothly, some people are apt to take him pretty much for granted.

However, if you consider your doctor's service to you and to the country—if you consider the skills he must have, the sacrifices he must make, the hardships he must work under—then it isn't very easy to take him for granted.

To become a doctor usually requires three to four years of pre-medical education, four years of medical school, and another year or more as an interne. But this hy no means represents the end of his training.

Do you realize how much time your doctor has to spend in continuing study—so he can bring you the benefits of all the latest medical advances?

During a year the average American doctor devotes the equivalent of about a month to the study of medical books and journals and to attending medical meetings.

It's an old story about how many patients a doctor has to see every day, how much of his time he devotes to charity, how many calls he has to make in the middle of the night. But did you ever think of it this way:

When you leave your office or job, the chances are that you're free from business duties for another day. You can do whatever you feel like—you can dig in your garden, visit friends, have a quiet evening at home with your family, drop in at a movie, or go for a drive. But your doctor's work is never finished. He's always—every waking and sleeping moment—responsible for the patients under his care.

Yes, it takes a lot of things to he a good doctor. It takes physical and nervous stamina. It takes patience. It takes great tact. It takes an understanding of people. It takes sound judgment. It takes unusual scientific and scholastic aptitude. It takes a sympathy for the unfortunate. Above all, it takes a spirit of humanitarianism and a sense of service.

Tall order, isn't it? Yet thousands and thousands of American physicians have all these qualities—and more. They are outstanding men and women. America should never cease to be proud of them.

Makers of medicines prescribed by physicians

PARKE, DAVIS & CO.

Research and Manufacturing Laboratories • Detroit 32, Michigan

© 1946, Parke, Davis & Co.



DESIGN

CAMP design is dedicated to meeting the physiological, surgical and maternity needs of the patient with the utmost in comfort and aesthetic appeal. Each specific design is further refined for the variety made necessary by the multiplicity of body builds and figure irregularities. The unique CAMP adjustment feature establishes a firm foundation about the pelvis as an "engineering" base for the distribution of regulated support. This makes it easy for the fitter to follow with precision the physician's recommendations for indicated firmness about the pelvis and controlled support of the abdomen, spinal column and gluteal region without pressure or compression.

CAMP ANATOMICAL SUPPORTS

Camp Anatomical Supports have met the exacting test of the profession for four decades. Prescribed and recommended in many types for prenatal, postnatal, postoperative, pendulous abdomen, visceroptosis, nephroptosis, hernia, orthopedic and other conditions. If you do not have a copy of the Camp "Reference Book for Physicians and Surgeons", it will be sent upon request.

S. H. CAMP & COMPANY • Jackson, Michigan • *World's Largest Manufacturers of Scientific Supports* • *Offices in* CHICAGO NEW YORK • WINDSOR, ONTARIO • LONDON, ENGLAND

DOCTOR:

You are cordially invited to attend the

58TH ANNUAL CONVENTION

of the

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

at

HOTEL PEABODY, MEMPHIS, TENN.

February 11-12-13-14, 1947

Read this list of those who will deliver addresses and make your hotel reservations at once.

Dr. Wesley M. Spink—*Medicine*—Minneapolis, Minn.
Dr. C. P. Rhoads—*Pathology*—New York, N. Y.
Dr. M. Herbert Barker—*Medicine*—Chicago, Ill.
Dr. R. H. Meade—*Surgery*—Chicago, Ill.
Dr. Alexander T. Martin—*Pediatrics*—New York, N. Y.
Dr. Arlie R. Barnes—*Cardiology*—Rochester, Minn.
Dr. Carl H. McCaskey—*Otolaryngology*—Indianapolis, Ind.
Dr. George Cahill—*Urology*—New York, N. Y.
Dr. Daniel C. Elkin—*Surgery*—Atlanta, Ga.
Dr. John R. Lindsay—*Otolaryngology*—Chicago, Ill.
Dr. Norris W. Vaux—*Obstetrics*—Philadelphia, Pa.
Dr. Carl E. Badgley—*Orthopedics* — Ann Arbor, Mich.
Dr. Henry L. Bockus—*Medicine*—Philadelphia, Pa.
Dr. Warren H. Cole—*Surgery*—Chicago, Ill.
Dr. William J. Dieckman—*Obstetrics*—Chicago, Ill.
Dr. Daniel C. Darrow—*Pediatrics*—New Haven, Conn.
Dr. George W. Curtis—*Surgery*—Columbus, Ohio.
Dr. W. L. Benedict — *Ophthalmology* — Rochester, Minn.
Dr. M. C. Sosman—*Radiology*—Boston, Mass.
Dr. Emil Novak—*Gynecology*—Baltimore, Md.
Dr. Harold Wolff — *Neuropsychiatry* — New York, N. Y.
Dr. J. Stewart Rodman—*Surgery*—Philadelphia, Pa.

Programs will be mailed January 20. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer

1479 Carr Ave. **Memphis, Tennessee**

Dependable Nourishment

DURING THAT *all-important* FIRST YEAR OF LIFE





The well nourished baby is more resistant to the common ills of infancy. Moreover it is during that all-important first year of life that the very foundation of *future* health and ruggedness is laid. Similac-fed infants are notably well nourished; for Similac provides breast milk proportions of fat, protein, carbohydrate and minerals, in forms that are physically and metabolically suited to the infant's requirements. Similac dependably nourishes the bottle fed infant *— from birth until weaning.*

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

A powdered, modified milk product especially prepared for infant feeding, made from tuberculin tested cow's milk (casein modified) from which part of the butter fat is removed and to which has been added lactose, olive oil, cocoanut oil, corn oil and fish liver oil concentrate.

SIMILAC } SIMILAR TO HUMAN MILK

M&R DIETETIC LABORATORIES, INC. • COLUMBUS 16, OHIO



UNCLE



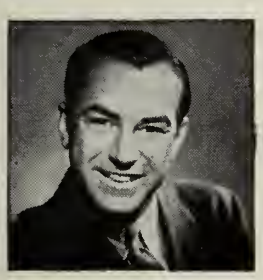
AUNT



GRANDMA



GRANDPA



FATHER



MOTHER



BROTHER



SISTER



NEPHEW



NIECE



SON



DAUGHTER

What <u>one</u> gift would please them all?

No matter what their tastes . . . their hobbies . . . their likes or dislikes . . . there's *one* gift that will please them, each and every one.

That gift is a United States Savings Bond.

This Christmas, put at least one Savings Bond under the tree for someone you love.

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

A PUBLIC SERVICE PROJECT
The Advertising Council

All worth while laboratory examinations; including—

Tissue Diagnosis

The Wassermann and Kahn Tests

Blood Chemistry

Bacteriology and Clinical Pathology

X-Ray including Gastro-Intestinal Study and Gall Bladder Visualization

Basal Metabolism

Pregnancy Test

Electrocardiograms with interpretation

National Pathological Laboratory

RALPH L. THOMPSON, M.D., Director
601-616 University Club Bldg.
ST. LOUIS
Telephone JEfferson 6088

This Laboratory is approved by the Council on Medical Education and Hospitals of the American Medical Association

ACCIDENT • HOSPITAL • SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$5,000.00 accidental death $25.00 weekly indemnity, accident and sickness quarterly	$ 8.00
$10,000.00 accidental death $50.00 weekly indemnity, accident and sickness quarterly	$16.00
$15,000.00 accidental death $75.00 weekly indemnity, accident and sickness quarterly	$24.00
$20,000.00 accidental death $100.00 weekly indemnity, accident and sickness quarterly	$32.00

Also Hospital Expense for Members Wives and Children

86c out of each $1.00 gross income used for members' benefit

INVESTED ASSETS	PAID FOR CLAIMS
$2,900,000.00	$13,500,000.00

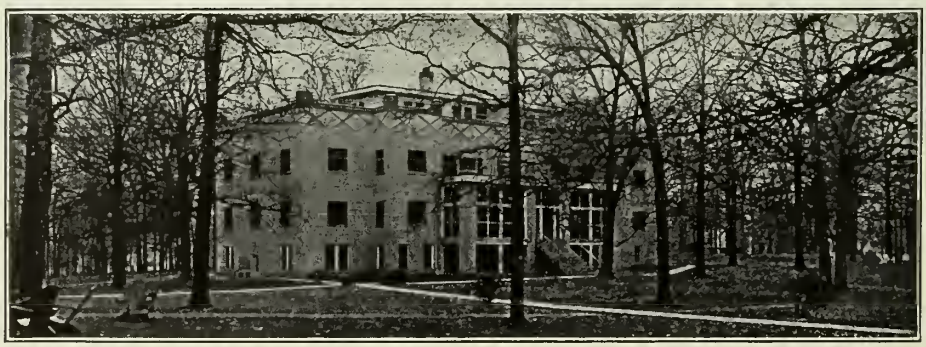
$200,000.00 deposited with State of Nebraska for protection of our members.

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

43 years under the same management

400 First National Bank Building, OMAHA 2, NEBRASKA



One of Four Main Buildings

GLENWOOD SANATORIUM

A Private Hospital for Care of Nervous and Mental Disorders, Alcohol and Narcotic Addictions.

Thoroughly equipped for all the approved therapeutic measures. Insulin, metrazol and electro shock used in selected cases.

Four main buildings for patients permit ample classification facilities. Large grounds composed of about fifty acres make many out-of-door activities possible.

Phone WEbster 1056

Visiting Consultants
Sidney I. Schwab, M.D.
W. W. Graves, M.D.

Visiting Neuropsychiatrist
Sydney B. Maughs, M.D.

Medical Superintendent
Paul Hines, M.D.

Resident Physician
Michael Lewis, M.D.

For full information, address

Paul Hines, M.D., Medical Superintendent, Webster Groves, St. Louis, 19, Mo.

A balanced formula basis for general infant feeding



FORMULAC Infant Food provides a flexible formula basis for general infant feeding, whether normal or difficult diet cases.

Developed by E. V. McCollum, FORMULAC is a concentrated milk in liquid form, fortified with all vitamins known to be necessary for adequate infant nutrition. No supplementary vitamin administration is necessary. No carbohydrate has been added to FORMULAC. This permits you to prescribe both the amount and type of carbohydrate supplementation.

An increase in the vitamin D content of FORMULAC from 500 to 800 U.S.P. units not only broadens the margin of safety for normal, healthy babies—but provides additional protection for unusual cases, such as prematures.

Priced within range of even low-income groups, FORMULAC is available at most grocery and drug stores from coast to coast.

ACCEPTED AMERICAN MEDICAL ASSN.

• For further information about FORMULAC, and for professional samples, mail a card to National Dairy Products Company, Inc., 230 Park Avenue, New York 17, N. Y.

NATIONAL DAIRY Sealtest PRODUCTS CORP.

Distributed by KRAFT FOODS COMPANY

NATIONAL DAIRY PRODUCTS COMPANY, INC.

New York, N. Y.

Mullen Ambulance Company

PRIVATE AMBULANCE SERVICE

Local and Distant Trips
Day or Night

5159 Delmar, St. Louis Forest 1913

FAITH HOSPITAL

A. J. SIGNORELLI, M.D., MEDICAL DIRECTOR

2800 N. Taylor St. Louis, Mo.

GOodfellow 6262

THE MARY E. POGUE SCHOOL

For Retarded and Epileptic Children

Children are grouped according to type and have their own separate departments. Separate buildings for girls and boys.

Large beautiful grounds. Five school rooms. Teachers are all college trained and have Teachers' Certificates.

Occupational Therapy. Speech Corrective Work.

The School is only 26 miles west of Chicago. All west highways out of Chicago pass through or near Wheaton.

Referring physicians may continue to supervise care and treatment of children placed in the School. You are invited to visit the School or send for catalogue.

27 Geneva Road Wheaton, Illinois Phone Wheaton 319

The Norbury Sanatorium

Established 1901 — Incorporated — Licensed — Jacksonville, Illinois

• ALBERT H. DOLLEAR, B.S., M.D., Superintendent. FRANK GARM NORBURY, A.M., M.D., Medical Director. SAMUEL N. CLARK, M.D., Physician. HENRY A. DOLLEAR, M.D., Associate Physician. FREDERICK A. CAUSEY, M.D., Associate Physician in Residence.





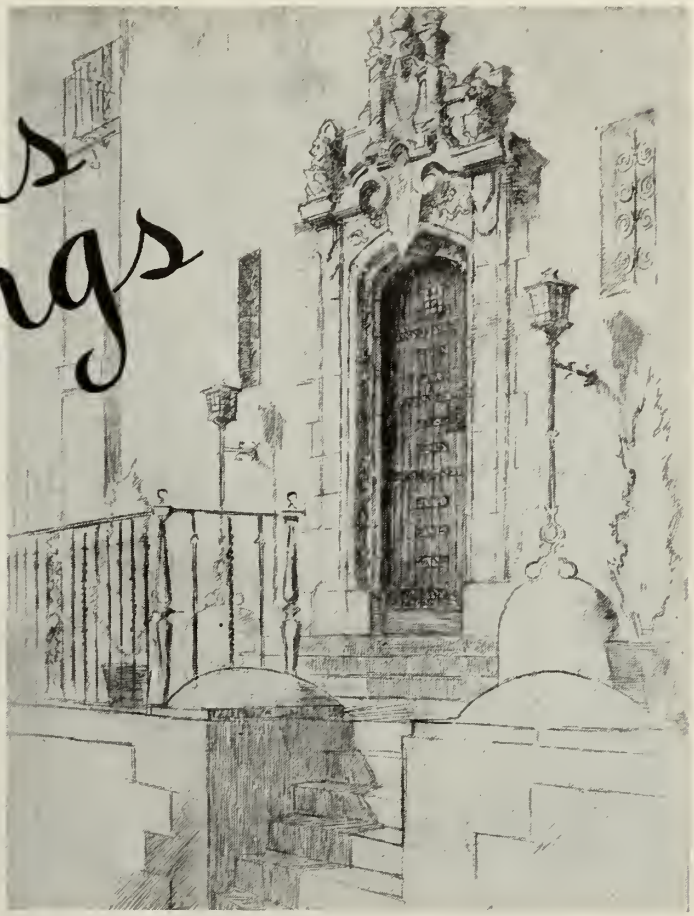
Maplecrest

• Pictured above — Restful, congenial homelike surroundings are combined with the most modern diagnostic and theraputic equipment.

Maplewood

• Pictured at left — Most comfortable homes for individuals requiring rest, scientific diagnosis and treatment. Fireproof construction.

season's greetings



Entrance to the Mosby Home Office, Saint Louis

To members of the Medical, Dental, Nursing and allied professions, we of The C. V. Mosby Company extend sincere greetings for this Holiday Season.

For Forty Years it has been our pleasure to work with you toward preservation of human health and welfare. We thank you for this great privilege—and we salute your constant devotion to your task. As we begin our Forty-First Year, we renew our pledge to serve you—and through you, humanity—to the best of our ability.

Best Wishes for a Merry Christmas and a Happy, Prosperous New Year!

The C. V. MOSBY Company

SCIENTIFIC PUBLICATIONS

Saint Louis *San Francisco*

A COMPLETE LINE OF
Zemmer PHARMACEUTICALS
Laboratory controlled ethical pharmaceuticals.
Chemists to the Medical Profession for 44 years.
Mo. 12-46 The Zemmer Company
Oakland Station • PITTSBURGH 13, PA.

HAMILTON-SCHMIDT SURGICAL CO.
St. Louis, Missouri
Surgical Instruments, Invalid and Sick Room Supplies
Post-Operative Belts, Elastic Hosiery and Trusses Fitted
REGISTERED NURSE IN ATTENDANCE
CEntral 1680 215 N. Tenth St.

RADIUM (including Radium Applicators) FOR ALL MEDICAL PURPOSES
Est. 1919
QUINCY X-RAY & RADIUM LABORATORIES
(owned and directed by a Physician-Radiologist)
W. C. U. Bldg. HAROLD SWANBERG, B.S., M.D., DIRECTOR Quincy, Illinois


WHEN Sensitive Skin IS DUE TO COSMETICS
Symptoms ore often allayed when offending allergens are removed. Prescribe AR-EX Cosmetics —free from known irritants.
℞ AR-EX COSMETICS
FREE FORMULARY
DR.....
ADDRESS.....
CITY.....
STATE.....
AR-EX COSMETICS, INC. 1036 W. VAN BUREN ST. CHICAGO 7, ILL.

ALCOHOL—MORPHINE—BARBITAL
ADDICTIONS Successfully Treated Since 1897 — Founded by B. B. Ralph, M.D.

Write for descriptive booklet
THE RALPH SANITARIUM
529 Highland Ave. Kansas City, Mo.
Telephone—Victor 4850
Drug Addictions Treated by Special System of Reduction—Individualized to Patient's Needs
Registered by the Council on Medical Education and Hospitals of the A. M. A.



A NAME TO REMEMBER

Dorsey

IT'S no trouble to remember the name of a friend . . . the street where you live . . . a favorite restaurant, clothier, druggist. These names are important; YOU DEPEND UPON THEM.

In professional life, also, a man remembers the names which play an important role: interesting patients, colleagues of consequence, medications you rely upon day after day—AND THE NAMES OF THEIR MANUFACTURERS.

Dorsey is one of the names you can count upon—a name to remember. For Dorsey (until recently Smith-Dorsey) has been making reliable pharmaceuticals for the medical profession since 1908. Dorsey products are backed by the Dorsey laboratories—fully equipped, capably staffed, following rigidly standardized testing procedures throughout.

Dorsey is a name you can depend upon . . .

THE SMITH-DORSEY COMPANY
LINCOLN, NEBRASKA
DALLAS, TEXAS LOS ANGELES, CALIF.

MANUFACTURERS OF
PURIFIED SOLUTION OF LIVER-DORSEY
SOLUTION OF ESTROGENIC SUBSTANCES-DORSEY

MISCELLANEOUS ANNOUNCEMENTS

WANTED: Technician at Clinton General Hospital. Address inquiry to Dr. R. S. Hollingsworth, Clinton, Missouri.

WANTED: Physician in prosperous town of 2,200 population, located on good highways and in good agricultural territory. Address Box 152, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

Veteran physician, 30 months training in surgery, desires assistantship to a Board, General Surgeon or a recognized residency in surgery. Address Box 153, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

FOR SALE: Westinghouse X-ray ten years old, 100 M. A., tilt table, fluoroscope, all accessories. Call Goodfellow 7433 or address Box 154, Missouri State Medical Association, 623 Missouri Bldg., St. Louis 3, Mo.

BUY VICTORY BONDS

You Should Attend!

Previous Conferences have proved their worth. The next will be even more outstanding. Those who attended are returning. You too are invited.

Four intensive postgraduate days in the truly great medical center.

CHICAGO MEDICAL SOCIETY
ANNUAL
CLINICAL CONFERENCE

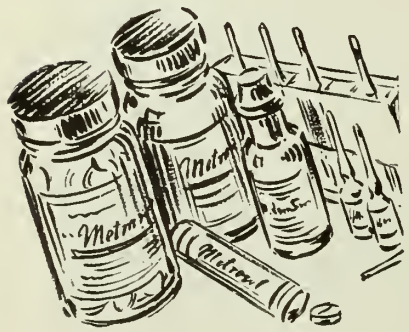
March 4, 5, 6, 7, 1947
Palmer House
Chicago

Make your Hotel reservation now.

Metrazol - *Powerful, Quick Acting Central Stimulant*

COUNCIL ACCEPTED

ORALLY - for respiratory and circulatory support
BY INJECTION - for resuscitation in the emergency



INJECT 1 to 3 cc. Metrazol as a restorative in circulatory and respiratory failure, in barbiturate or morphine poisoning and in asphyxia. PRESCRIBE 1 to 3 tablets, or 15 to 45 minims oral solution, as a sustaining agent in pneumonia and congestive heart failure.

AMPULES - 1 and 3 cc. (each cc. contains 1½ grains.)
TABLETS - 1½ grains.
ORAL SOLUTION - (10% aqueous solution.)

Metrazol, brand of pentamethylentetrazol, Trade Mark reg. U. S. Pat. Off.

Bilhuber-Knoll Corp. Orange, N. J.



Of a total of 436 preschool children immunized with PERTUSSIS ENDOTOXOID-VACCINE, not one child developed pertussis over a period of 2½ years.* During a similar period, 5.8 per cent of the children under seven years of age in the same city contracted whooping cough.

Ayerst PERTUSSIS ENDOTOXOID-VACCINE is both antibacterial and antiendotoxic, thus providing immunity to the H. pertussis organisms and to the endotoxin produced by these organisms.

Available in vials of 6 cc. and 24 cc.

PERTUSSIS ENDOTOXOID-VACCINE

Bacterial Vaccine and Bacterial Antigen Combined.
Made from H. pertussis phase I organisms.
* Brereton, T.C.: Canad. M.A.J. **54**:358 (April) 1946.



Ayerst

AYERST, McKENNA & HARRISON Limited, 22 E. 40th Street, New York 16, N. Y.

Boston Medical Library
8 Fenway



The rooster's legs are straight.

The boy's are not.

The rooster got plenty of vitamin D.

Fortunately, extreme cases of rickets such as the one above illustrated are comparatively rare nowadays, due to the widespread prophylactic use of vitamin D recommended by the medical profession.

One of the surest and easiest means of routinely administering vitamin D (and vitamin A) to children is MEAD'S OLEUM PERCOMORPHUM WITH OTHER FISH-LIVER OILS AND VIOSTEROL. Supplied in 10-cc. and 50cc. bottles. Also supplied in bottles of 50 and 250 capsules. Council Accepted. All Mead Products Are Council Accepted. Mead Johnson & Company, Evansville 21, Indiana, U. S. A.

J. HOLZER

